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of the

STATE COLLEGE OF WASHINGTON

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RESEARCH STUDIES of the STATE COLLEGE OF WASHINGTON

Volume X

March, 1942

Number 1

A SOCIOLOGIST LOOKS AT WAR¹

JESSE F. STEINER
University of Washington

1. The Causes of War

From the point of view of a sociologist the outbreak of war cannot be traced to a single cause. The paths that lead to war are as intricate and closely interwoven as is the web of human life. War is not always an inevitable outgrowth of the machinations of evil and designing men seeking power or wealth for themselves. Neither is war unavoidable because of man's instinct of pugnacity. Nor can it always be ascribed to the interplay of economic forces. The pressure of population on the food supply has at times driven nations to war, but not all overcrowded peoples have been warlike. Similarly, while we would all agree that in modern imperialistic wars there is a close alliance between business interests and the state, this competitive struggle for foreign markets or for monopolistic control of raw materials does not inevitably lead to a clash of arms. When the cataclysm of war engulfs a nation, its causation must be sought not in a single set of forces but rather in the complicated network of the total situation.

In our analysis of the forces that lead to war, attention must be given to the process of interaction that goes along with vigorous and well-organized preparation for national defense. As a nation's fighting strength increases, it becomes more militant and uncompromising in its discussion of international issues, and at the same time its advances in military preparedness are interpreted by rival nations as a greater threat to their security. A continuous stream of appropriations for national defense cannot be maintained unless the people feel keenly the danger of war. The publicity needed to keep the people war-minded arouses resentment abroad and provokes warlike statements in the foreign press which are later reprinted for home consumption and fan the flames of hostility still further.

¹Presidential Address delivered before the Annual Meeting of the Pacific Sociological Society.

The milling process that takes place under these circumstances is not unlike the vicious circle of events that precede the outbreak of a riot or panic in time of disaster. The newspapers and radio commentators give greater emphasis to international issues. The public responds by taking greater interest in their government's foreign policy. Organizations are established to promote national defense and undertake campaigns of publicity in support of their cause. War fever invades certain groups and becomes more widespread. Opposing nations are painted in blacker colors, and the necessity of taking a firm stand against dangerous foes is loudly advocated. Step by step the people become more prepared for the beginning of hostilities, and, when war actually breaks out, it is not merely accepted as unavoidable, but is regarded as a righteous war for which no sacrifice can be too great.

In the period of uncertainty and unrest that precedes a war as well as during the war itself, controlled publicity comes to the front and imposes narrow limits upon the public's knowledge of events that determine foreign policy. Propaganda, the ancient art of persuasion and gaining good will for a cause, has in the stress of war emergencies degenerated into an instrument that seeks to gain its ends through half-truths, misrepresentation, and falsehoods. In the hands of war leaders, its twofold purpose—the building of morale on the home front, and the breaking down of the morale of the enemy—is accomplished by rigid censorship of news, by stories of atrocities, by emphasis upon the treachery and rapacity of the enemy, by exaggerated claims of victory in battle, by magnifying enemy losses, and by throwing upon the enemy responsibility for the outbreak of the war. So skillfully has propaganda been used in recent years that it ranks along with military and economic forces as a major factor in carrying war to a successful conclusion.

This modern emphasis upon propaganda has come with the growing influence of the common people, who are better educated, take more interest in political affairs, and no longer tend to follow blindly an arbitrary or tyrannical ruler. Support by the people must be secured even by a modern dictator, and consequently the art of building public opinion has become one of the major functions of government. The greater literacy of the people increases the effectiveness of the newspaper and the periodical as agencies for propaganda. The widespread use of the radio and the popularity of motion pictures

give to propagandists extraordinarily effective instruments for swaying the minds and emotions of the public. When these various means of disseminating information and news are dedicated to the service of a nation, as is the situation in time of war, the public learns only what the government is willing to divulge, and its thinking is almost inevitably molded into the pattern determined by those in authority. The more intelligent may realize that much of the truth is being concealed from them, but they too tend to be swept into line and fall victims to the prevailing war hysteria.

II. The Threat of War to Democratic Procedures

As the sociologist faces our present war emergency, he is concerned not merely with the forces that swept us into it and the means used to keep up our morale, but also with the many changes it initiates both during the war period and the years that immediately follow. War, especially in a democratic country where the military machine has been kept in the background, stands out as a fearfully disruptive force that tends for the time being to alter the basic conditions of life. All economic resources, as far as possible, are turned into the war effort. Production of luxury goods is curtailed. Large numbers of people must change their accustomed employment to production of war materials or to military service. Taxation and mounting prices limit the purchasing power of the people. The war wastes national wealth. The national debt increases rapidly. A portion of the population profits by participation in industries stimulated by the war emergency, but large numbers of people find themselves compelled to accept a lower standard of living.

These economic changes are paralleled by equally disturbing changes in the political realm. Centralized governmental control becomes a necessity. The democratic processes of discussion, of education, and of legislation by popular vote are largely laid aside, because they operate too slowly. There is no time to debate which course is the best to follow. There must be no delay in making important decisions. Government agencies set up to deal with the war situation push into the background the regularly established government departments. Social legislation is sidetracked, and reform movements get no support unless they seem essential for national defense.

As control of the state increases, people are compelled to live under orders. They must take over the psychology of the soldier and

are made to feel that it is their part to obey and cooperate rather than to do their own thinking. Civil liberties are impaired if not entirely destroyed. Life takes on a quasi-military tone. Participation in war work gives a person heightened status. The routine activities of daily living are greatly restricted by the requirements of the war situation.

This turning away from democratic procedures and making provision for more centralized control become especially disturbing to a people long accustomed to democratic traditions. It has frequently been declared that our participation in the present world war will plunge us into a dictatorship from which the nation will never escape. A similar prediction was made at the time of our entrance into the first World War in 1917. But immediately following the Armistice, demobilization of war agencies proceeded rapidly. Congress assumed its accustomed powers, and war measures were repealed. President Wilson's influence over the American people was insufficient to gain approval of his plan for the League of Nations. The American Red Cross, which had built up a powerful humanitarian agency during the war, made ambitious plans for a peace-time program designed to centralize various social work activities under its auspices throughout the country. But the first announcement of the plan for a more unified attack upon our social problems met with so much opposition that it was immediately abandoned. There was an extraordinary eagerness to get away from centralized authority and restore our democratic way of life.

Fortunately, American traditions are deeply rooted and have thus far survived the various crises our nation has had to face. Of course, a long-continued war, which may now be our lot, may produce sufficient chaos and discontent to endanger the continuance of our well-established institutions. War undoubtedly paves the way for revolution. Many people to whom it brings poverty and insecurity become embittered and turn easily to the support of radical social movements which flourish in a post-war world impoverished and staggering under an almost intolerable debt. Long regimentation under military discipline tends to bring about a decline in moral responsibility. The old mores are weakened and confusion increases as the accustomed social controls are broken down. A situation of this kind is most likely to arise when war has ended in defeat, but even a successful war may leave a nation disorganized and ready for agitators eager for

revolution. The very means employed to defend our democratic institutions against enemies abroad may set in motion within our borders disruptive forces than can easily destroy all the fruits of victory.

III. The Effects of War on Social Institutions

These changes in the political and economic realms stand out so prominently that we frequently overlook the important other social changes that come about as a result of war. When a sociologist looks at war, he sees not merely its extensive economic adjustments and the ever-present political dangers but also the broken homes, the lowered moral standards, and the blighting effect on social institutions. Some of these effects are transitory; others, however, may be permanent. Broadly speaking, our social institutions are so profoundly affected by the war situation that they rarely, if ever, make a complete return to their pre-war status.

Among our social institutions, the family is one upon which the burdens and risks of war rest most heavily. War is fearfully destructive of human life and therefore is responsible for multitudes of broken homes. Modern war weapons and war methods have become increasingly effective in spreading ruin and death over wide areas. No longer are war deaths largely limited to soldiers equipped for battle. The civilian population also must face the danger of violent deaths as well as destitution and war-borne diseases. The estimated mortality during the World War of 1914-18 was ten million known dead soldiers, three million presumed dead soldiers, and fifteen million dead civilians. If we add to these appalling figures the millions who were seriously wounded and crippled, the millions of dispossessed war refugees, and the millions of war widows and orphans, we get some idea of both the destructiveness of war upon human life and also its devastating effect on families both during and after the war.

The fact that the major share of war deaths is among young adult males makes inevitable an unbalanced sex ratio at the conclusion of war. In Germany, for example, there were two million more women than men between twenty and forty years of age in the post-war period. The sex ratio was eighty men to every hundred women. When we take into consideration not merely this disproportion between the sexes but also the large number of surviving men who were more or

less seriously incapacitated by war wounds and war diseases, it is quite clear that for large numbers of young German women, marriage opportunities were limited, if not entirely absent. A similar situation prevailed both in France and England in the years immediately following the first World War.

War not merely kills but it brings about a greatly decreased birth rate. The proportion of children under five years of age in Germany decreased from 12 per cent of the total population in 1910 to 6.3 per cent in 1919. In actual numbers, Germany had approximately four million fewer children under five years of age at the close of the war than ten years previously. A similar decline in number of births has occurred also in Japan since her attack upon China in 1937. This decreased birth rate has come about despite the prompt closing of all birth control clinics at the outbreak of the war and the enactment of provisions designed to encourage large families. In Germany, Hitler is attempting to combat the war-time tendency toward lowered birth rates by urging German women to bear children even though out of wedlock.

Another effect of war upon the family is the stimulus it gives to marriages, especially during the early period of the war. In England, reports revealed last year a 40 per cent increase in the number of marriages. In Germany, where official encouragement has been given to war marriages, there has also been a marked increase. In general, it may be assumed that many of these marriages are entered into hastily and end unhappily. A recent study of American marriages contracted during the first World War showed that they tended to be unstable and had a divorce rate higher than the average.²

Closely related to the war-time problems of the family is the widespread breakdown of conventional sex standards. It is well known that war is accompanied by an increase in sexual immorality. The separation of large numbers of men from their families and the social groups to which they belong, the restrictions upon customary activities, and the changed outlook upon life as the dangers and consequences of war are faced, bring inevitably a weakening of the social controls by which morality is enforced. Under war conditions there develop attitudes favorable to looseness of morals not merely among

² Calvin Hall, "The Instability of Post-War Marriages", *Journal of Social Psychology*, V (1934), 523-30.

soldiers but among civilians as well. Both prostitution in the vicinity of army camps and promiscuity among the people in general become major problems that not merely threaten the stability of family life but also endanger a nation's fighting strength through the spread of venereal disease.

The American army came out of the first World War with a higher syphilis rate than when it was conscripted. Venereal disease cases in our army outnumbered battlefield casualties including both dead and wounded. More than four hundred thousand of our soldiers lost a total of 7,500,000 days of military service because they were incapacitated by venereal disease. Examination of the first million draftees during the past year showed an average syphilis rate of 45 per 1000, much less than the rate of more than 100 per 1000 which prevailed among our soldiers in the first World War.

Experience with prophylactic measures in recent years is making possible a much lower venereal disease rate, but no way has yet been found to prevent the increase in prostitution in war-time. Fortunately, public sentiment in America demands a more vigorous campaign against prostitution than is attempted in either Europe or Asia. Brothels established for the convenience of soldiers do not operate here under government license as they do in many places abroad. Last July, Congress gave the army authority to set up zones in the vicinity of army camps within which prostitution becomes a federal offense. Commanders of army posts have threatened to make certain cities out-of-bounds for their soldiers if vice conditions are not better controlled. Civilian organizations are attempting to combat vice by providing army men with more opportunities for wholesome recreation. It is becoming more generally recognized that such measures must receive widespread support if any headway is to be made in counteracting the war-time tendency toward vice and immorality.

Another of the unfortunate aspects of war is the blight it casts on schools and education. When war breaks out, schools and colleges are diverted as far as possible to war uses. All the resources of scholarship are called upon to justify the war, and unpleasant is the lot of teachers suspected of being lukewarm in its support. During the war of 1917-18 thousands of American teachers left their positions to engage in war activities. The United States Commissioner of Education reported over eighteen thousand schools closed because of lack of

teachers and nearly forty-two thousand taught by persons inadequately trained. Many American colleges turned aside from their accustomed work to provide training courses for war activities. The established standards of scholarship were lowered by giving college credit for military service. Enrollment of students declined, in some institutions as much as 50 per cent.

But the more tragic effects of war upon education are found in countries invaded by hostile armies. Educational institutions with their libraries and equipment are destroyed and their personnel scattered. Formal education ceases, and if the war persists, large numbers of children grow up illiterate or with a minimum of schooling. During the first World War large regions in Russia, France, Belgium, and elsewhere suffered almost the complete loss of their educational institutions. More recently the Japanese invasion of China brought upon that country one of the great educational disasters of modern times. Out of 108 colleges and universities that had been in existence before the war, 14 were entirely destroyed, and 77 others severely damaged or occupied by the enemy. The financial losses covering buildings and equipment amounted to many millions of dollars. One of the most spectacular and significant of modern migrations was that of thousands of Chinese students and their teachers who made the long overland journey from the coastal provinces to the interior, carrying on their backs or in primitive conveyances as much of their equipment as possible, so that in Free China college work might be resumed far removed from the ravages of war. Even more devastating have been the effects of war upon the public schools in the provinces occupied by the enemy. The Chinese Minister of Education reported last year that nearly 50 per cent of the elementary schools had been compelled to close, millions of children thus being deprived of all educational opportunities.

Another important institution upon which the shadow of war falls is the church. Religion is such a powerful force that its support must be secured when a nation goes to war. To assure the people that God is fighting on their side is a well-established morale-building device. Because Christianity is essentially a peaceful religion, admonishing us to love our enemies, its endorsement of war is a regrettable abandonment of its basic idealism. Nevertheless, the church is a community institution and as such is expected to make its most effective contribution to the war emergency.

In 1917 the American churches in general gave their support to our entrance into the war. Their message from many pulpits was that this was a holy war, that the enemy was the embodiment of evil, and that God was on the side of America and the Allies. This attitude of the churches in that war crisis strengthened their position in the nation, and new adherents flocked to their services. Religion comes to the front during a war both because it adds strength to the fighting forces and because its ministrations are needed in the midst of bereavement and death.

But when the war is ended, religious forces tend to suffer a decline. The immediate post-war period is irreligious. It is a time of disillusionment, when cynicism flourishes and religious idealism falters. People disturbed by the emptiness of victory or by the bitterness of defeat turn away from the religious institutions that failed them and flock to new cults or seek in different kinds of secular organizations an outlet for the expression of their emotions and aspirations.

IV. War and Social Reform

In this brief survey of the social effects of war, our emphasis upon its evils must not blind us to the fact that some of the social changes it accelerates are beneficial. War undoubtedly speeds up certain social reforms, especially those dictated by military necessity. Some may be carried out to placate important groups whose war support is needed. Or the war leaders may decide to deal drastically with disabilities because they weaken our man power or waste our resources. Examples of social reforms popular during the war period are liquor control, campaigns against venereal disease, housing of defense workers, and humanitarian efforts to relieve the poverty and suffering caused by war. War brings a speedy truce to labor controversies but makes no contribution to their permanent solution. War is a poor time to deal with high profits of war industries, to curb monopolies, or to make an issue of political corruption. The reforms initiated or accelerated by war are carried out arbitrarily more or less under the influence of war hysteria, and in the long run may prove to be ill-advised although at the time they appear to be a real step forward.

An illuminating example of a reform of this latter type is our experience with liquor control legislation in 1918. For many years previous to that time, temperance societies, the Prohibition party, and

the Anti-Saloon League had been struggling to curb the liquor traffic, and through the devices of local option and state prohibition 95 per cent of our land area was dry territory in which nearly two-thirds of our population resided. After our entrance into the war a campaign for national prohibition was waged on the ground that there was a loss of manpower through intemperance and a loss of food through the manufacture of liquor. This resulted in the passage of the War Prohibition Act shortly after the Armistice, which paved the way for the Eighteenth Amendment, ratified by the states a year later.

Then followed fourteen years of unsatisfactory experience with federal prohibition and the repeal of the Eighteenth Amendment in 1933. We can now see that the war legislation was unwise because it interfered with a more decentralized method of control which had been widely accepted by the people. With war now upon us, the manufacture and consumption of large quantities of liquor again stand out as a serious drain upon our national resources, and we can expect, in the not-distant future, war legislation designed to control the liquor traffic in the interests of national welfare.

Another illustration of the way in which war accelerates social change is found in the movement for the emancipation of women. At the outbreak of the World War in 1914, English suffragettes became less militant and their cause was overshadowed by the war emergency. As the war went on, however, public opinion rallied again to their support, and in 1917 Premier Asquith gave his approval to a bill granting limited franchise to women in order to gain their full support in the war.

In this country American suffragettes had been picketing the White House during the presidency of Woodrow Wilson, who opposed the franchise to women. In 1918 President Wilson recommended passage of the Nineteenth Amendment "as a measure vital to the winning of the war". This amendment giving to women equal suffrage with men was passed in 1919 and ratified by the states the following year. War undoubtedly gave great impetus to the passage of this legislation, which is an instance of social change that has met with wide approval.

War also was an important factor in giving better status to social work in this country. At the time of the first World War social case work in the field of relief and child welfare was an urban movement

and had been effectively established only in the largest cities. Poor relief carried with it considerable stigma and funds were very inadequate. Upon the outbreak of war there was established the Civilian Relief Department of the American Red Cross to give aid to needy soldiers' and sailors' families as a means of making military conscription more acceptable. Red Cross chapters were set up in every county in the nation, and in many places these chapters were the first formal organization to aid destitute people. Experienced social workers were employed by the Red Cross, and professional schools were established in universities to train additional personnel. Relief was given on a more liberal scale and was looked upon as something due to soldiers' families plunged into poverty by the war situation. This new attitude toward aid of people in distress was a great stimulus to social work during the post-war period and prepared the way for assumption of federal responsibility for unemployment relief during the 1930's.

The influence of the past war can be seen also in the field of public recreation. In the effort of our War Department in 1917-18 to combat prostitution, War Camp Community Service was set up to provide wholesome recreation facilities in areas adjacent to army camps. The high quality of leadership in army recreational service carried out on such an extensive scale drew attention to the problems of adult recreation and facilitated the wide acceptance after the war of municipal responsibility for public recreational facilities and supervision.

Closely associated with the new impetus to outdoor recreation was the device of daylight-saving established by Congress in 1918 and repealed two years later. This was a war measure designed to save coal and electricity, and it became popular in some of the large cities because it gave an additional hour of daylight for outdoor recreation at the close of the working day. Following the repeal of this measure in 1920, New York, Chicago, and some other large cities in the East and Middle West passed local ordinances setting up daylight-saving during the summer months. This method of adjusting the hours of the working day to the changing seasons was inadequate and has not been widely adopted but was a first step toward the solution of a problem to which further attention should be given. Already Congress has been requested to enact a daylight-saving law as a war

measure. Perhaps one of the by-products of this war may be the abandonment of an unchanging schedule of work hours throughout the year and the acceptance of a new method of timing which will make possible a maximum use of daylight hours for both work and recreation during the seasons of the year when the days are long.

The above examples are perhaps sufficient to indicate the aspects of war in which the sociologist is most interested. He sees the human costs of war, its depressing effect upon our social institutions, and its power to uproot traditional customs and habits of life. Sometimes war seems to make for progress, but its paths more frequently lead to destruction.

At a recent meeting of engineers one of their speakers declared that "The world is ten years ahead of where it would have been, scientifically, if there had been no war. Technical research and scientific progress are doing more for the world than Hitler is undoing". Sociologists cannot be equally sure that war is speeding up social changes in ways that will strengthen our civilization. Judging by the past, we can safely predict that some of the by-products of war in the field of social change will be beneficial. But war is far more likely to lead to a disastrous revolution than to a satisfactory rebuilding of our social order. War is essentially an evil, and whatever gains it may bring to our nation will be paid for many-fold in blood and treasure and will be secured only through enormous risk.

War has come upon us, and we must see it through to the bitter end, taking no thought of sacrifice. But let us not go into it under the illusion that we are thereby hastening the solution of our most troublesome social problems. Through our participation in this war, we may be able to put to rout those who seek to profit through military aggression, and preserve for ourselves and our children our priceless heritage of freedom. At the same time we must realize that we shall be postponing for perhaps another generation those long desired social reforms which will make this world a more satisfying place in which to live.

CREATIVE PEACE-MAKING¹

CLARENCE MARSH CASE

University of Southern California

1. War and peace are two related aspects of a single social process, called *synergy* by Lester F. Ward.² Under that term he referred to the cosmic process, defined by him as "the harmonious and constructive working together of the antithetical forces of nature." Simmel³ shows that war does not end just when the armistice begins; if the movement toward peace had not already begun, the armistice could not have been arranged. Likewise, preparations for war begin during peace; otherwise, war could not equip itself sufficiently to interrupt peace so suddenly.

Sumner,⁴ Giddings,⁵ and Novicow⁶ have all shown that peace is a way of living together through mutually advantageous cooperation (called "exchange" by Novicow), whereas war is the interruption of those arrangements by appeal to force. As Ward has pointed out, force is essentially unintelligent and destructive, whereas the "method of indirection," or reason, is the only truly progressive principle and method. He completely refuted all the ruinous nonsense of the "propaganda of the deed" in labor conflicts and of "total war frightfulness" long before its mad claims were extended to national and international affairs.

2. A long line of eminent thinkers (George Fox, Sully, William Penn, Sumner, Giddings, Norman Angell, President Kingdon) have clearly demonstrated an everworking social process which results in "the enlargement of the peace-group" through the growing perception of a larger common interest which always underlies particular con-

¹ Summary of a talk delivered from an outline before the Annual Meeting of the Pacific Sociological Society.

² *Dynamic Sociology* (New York and London, 1883), II, 95-102, 308-99, *et passim*; *Pure Sociology* (New York and London, 1903), 171 ff.; *Applied Sociology* (Boston, 1906), 331-39.

³ Georg Simmel, "The Sociology of Conflict, III," *American Journal of Sociology*, IX (1904), 798-811. See also Nicholas J. Spykman, *The Social Theory of Georg Simmel* (Chicago, 1925), 112-13, 125-27.

⁴ William G. Sumner, *War and Other Essays*, ed. E. G. Keller (New Haven, 1911), pp. 3-40.

⁵ Franklin H. Giddings, *Democracy and Empire* (New York, 1900), Chap. XX ("The Gospel of Non-Resistance"), pp. 343-57.

⁶ Jacques Novicow, *The Mechanism and Limits of Human Association: The Foundations of a Sociology of Peace*, translated by Sophia Hersch Otis in *American Journal of Sociology*, XXIII (1917), 289-349.

flicts. They are thus actually treating, in general terms, the process of social synergy, called "accommodation" in the field of sociology. Its two basic processes I shall designate as opposition and cooperation, defining them as follows: Opposition is that social process in which persons or groups move toward ends that are nonsharable or incompatible. Cooperation is that social process in which persons or groups move toward ends that are sharable or compatible.

The basic assumption of these definitions is that, normally, human beings fight for ends and not for the sake of fighting, or, as Cooley aptly put it, we injure one another more often with our elbows than we do with our fists. The exception might be the relatively few quarrelsome trouble-hunters and would-be dominators, the *militaristic* as distinguished from the *militant type*.

3. Responsibility for the present war is immensely complex and is widely distributed. Nietzsche, Treitsche, Bernhardt, Machiavelli; the militarists, militants, interventionists, isolationists, League of Nations bolters, anti-League progressive disarmament advocates—all these and other groups have partly, often unwittingly and unintentionally, helped to create the present ghastly situation; in short, all those who permitted world-economy to outrun world-community.

4. Among the creative peace-makers are Sully with his "Grand Design of Henry IV"; Penn with his "Plan for the Peace of Europe"; Wilson with his "Fourteen Points" and the League of Nations; Root with his World Court; Kingdon with his prize essay, "The Price of Peace"; Streit with his "Union Now"; Roosevelt and Churchill with their "Atlantic Charter"; and the now existent, salvaged League itself—and everybody who is dedicated to living creatively, by the method of rational indirection, and who promotes the welfare of the world by creating and organizing order, law, justice, and peace.

SOCIOLOGICAL IMPLICATIONS OF POST-WAR RECONSTRUCTION¹

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This venture into undocumented prophecy is for the speaker a new experience. Possibly the program committee believed that I had passed that milestone after which the scholarly mind is supposed to turn from attitudes of scientific caution to those of philosophic anticipation. I hope that this is not rue.

The world is again in the midst of a war. That war has already involved us. Almost at the beginning of what promises to be a long struggle, the American people are concerning themselves with the economic and social aftermath of that war. Popular literature dealing with post-war adjustments is pretty exclusively directed to the consideration of internal social and economic problems. Aside from statements of political leaders, international political adjustments receive little attention. During the first World War, seemingly no one doubted the ability of nations to handle their internal after-war problems; in fact, such problems were scarcely discussed. Interest in international political adjustments then dominated the scene.

Why this change of emphasis? This brief introduction permits the mention of only two of the factors responsible for this change.

In the years which followed the Armistice the first World War became the scapegoat for nearly all the social and economic ills which followed. Because the folkways of man's thinking, his fears, and his hopes are born in such crises, the recurrence of war within the experience of the present generation may be significant. From the standpoint of cultural adjustments to post-war reconstruction, it may be good that war has come again so soon.

A second factor which for us may account for the marked concern over internal adjustments is our changed attitude toward Europe. It may not be correct—it may be only an expression of American ethnocentrism—but there is an opinion very generally shared that Europe has become and will remain a poorhouse and that its long centuries of cultural leadership are nearly finished.²

¹ Delivered before the Annual Meeting of the Pacific Sociological Society.

² A vigorous challenge of this position as regards England is found in Gustav Stolfer's "The Fable of Britain's Degeneracy," *Harper's Magazine*, CLXXXIV (1941), December, pp. 30-39.

In turning to the problems of the post-war period, I wish to indicate that the development of this paper rests upon two basic assumptions: (1) that after the war the United States will remain a free and independent nation and (2) that many European countries now subject to or threatened with German domination will be likewise free.

The problems of reconstruction run the gamut of problems and processes usually treated in sociology—conflict, crowd behavior, population policy, personality frustration, cultural diffusion, cultural transmission, the sociology of crisis and of reform. I shall limit this paper to the consideration of three sociological aspects of post-war adjustment: (1) conflict and accommodation, (2) certain phases of crowd behavior, and (3) the redefinition of the relationship of the individual to the group.

I. Conflict and Accommodation

What may we anticipate from a knowledge of the sociology of conflict and accommodation regarding possible post-war developments? It is not necessary to deal at length with the general nature of conflict. It is always temporary and often makes strange allies. Its termination is followed by some form of cooperation, forced or free, between former enemies. By the same token, the peace which establishes increasing cooperation between enemies also establishes in bolder relief potential bases of difference and discord among allies. While nations A and B are joined as allies against enemies X and Y, the bases for discord between A and B are eclipsed by the size and seriousness of the immediate jobs of war and self-preservation. Furthermore, the disruption of trade and normal relations by the exigencies of war tends to reduce awareness of those normal sources of friction, which will appear again when peace is restored. At the same time the resumption of peaceful relations with the enemy makes possible long denied but necessary exchanges in goods and ideas. Then A discovers many bases of irritation in its dealings with B and at the same time is drawn closer to both X and Y. This approachment to former enemies may be influenced by a psychological release from hate. Similarly, the estrangement from former allies may rest on release from excessive praise and forced cooperation. Although it is an over-statement, there is much cultural wisdom contained in the popular expression "we end a war by hating our allies and loving our

enemies." It is perhaps more proper to compare this process with Galton's law of regression, because the extremes of cooperation and conflict are followed by relationships involving a mixture of cooperation and opposition in less-pronounced forms. The efforts of England, Holland, and Norway to regain markets after the war will be scarcely more welcome to American workers and traders than will the similar efforts of Germany.

Not to be overlooked in our discussion of conflict is the tremendous dissension which may accompany attempted reconstruction of countries now under the domination of the Third Reich. This situation will be very probable should the German control collapse suddenly. Observing emigres already report marked dissension between groups seeking to gain power when this collapse comes. Aspiring groups both within the conquered areas and in England and America are antagonistic. Intolerable as German authority may be, its sudden overthrow could easily be followed by an almost equally intolerable anarchy resulting from conflicting programs for political leadership. On the other hand, should the yoke of German control be removed step by step, this anarchy may be reduced. In this event leadership established in the military arena may be later accepted in civil and political fields. Such a development has often come about.

Other bases of conflict may easily arise in any re-ordering of European countries following the war. If America should assume a role in the reconstruction of Europe, she may find that role far less welcome than that of freeing people from German control. The job of eliminating Herr Hitler is definite, although its difficulty is perhaps underestimated. But decisions as to parties to be recognized in post-war Europe and of boundaries to be established may call for the wisdom of Solomon and may turn the populace of many rescued countries from attitudes of gratitude to those of resentment. A case in point is the future Russo-Finnish border.

II. Mental Epidemics

Most dramatic of all problems in the post-war period are those forms of public behavior which we sometimes call mental epidemics. The after-war years will probably be filled with crusades of hope and hate. The heights to which hopes and hates are pushed during a war do not permit quiet dissipation of these passions when the objectives which brought them into being are either realized or liquidated. When

the symbols of Hitler or Japan can no longer be used as hate objectives, new ones will be found. We may resurrect any one of a dozen generation-old prejudices and again proceed on holy crusades for the purification of America. Call it hate fulfilling its mission or give it any other name, there is good reason to believe that such movements are strongly influenced by war experience. Further, civic and educational forces do not appear able to prevent their expression.

That the present war crusade is raising noble but impossible hopes among millions in America is a sober fact, for the justification of war calls into being the noblest of man's aspirations. Whether we take the eight-point pronouncement by Mr. Churchill and Mr. Roosevelt or the Four Freedoms so eloquently stated by the President makes little difference. Either will be wholeheartedly accepted by the preponderant mass of citizens. They should be so accepted because in our culture they are valid aspirations. But there is a distinction between valid wishes and achievable ends. There is no question that the four points—freedom of speech and expression, freedom of worship, freedom from want, and freedom from fear—can provide justification for almost any military action. Such aims bolster the enthusiasms of both citizen and soldier. But if in the waging of war we experience not greater freedom but added limitations on speech and worship, if our wants and fears instead of diminishing become greater and more numerous, and, if with the completion of war we are unable to compel these freedoms—and they can never be compelled—what happens to our hopes? If at that time such hopes could be dismissed with an easy "Excuse me" or "So sorry," their failure of realization would give us little concern. But millions of people conditioned to the realization of their aspirations through organized and ruthless force forget neither their aspirations nor the means of seeking their realization. It is not unnatural that the lessons in force learned in seeking international ends may now be turned to making one's own country "safe for Protestantism" or "safe for whites" or "safe for Gentiles" or "safe for what have you." These hopes for a better world are joined with the hates already suggested. I have a strong suspicion that hope and hate are often necessary complements of each other. But the hates now are not for Herr Hitler, but instead for Mr. Catholic or Mr. Negro or Mr. Jew, who are regarded as barriers to that better world. Besides, these new expressions of hope and hate

are in terms of traditional prejudices and local environment and are more easily translated to the common man than conflict in the international field.

III. Group Control of Individual

The last post-war adjustment which I wish to mention is that which affects our conception of individual freedom. The impact of our united effort in this war and the national crises which we must meet before the termination of this conflict are rather certain to redefine our conceptions of the relations of the individual and the state. To a few an increase in authority by the state has long been desired. For the majority only a crisis of such dimensions can readily force such redefinition. Whatever way we may view a change which places the group significantly above the individual, we must recognize that such change is not in keeping with our historic exaltation of the individual. This emphasis of individual freedom in our democratic background was derived from the Protestant revolution and the revolt against monarchy. The emphasis was not lessened by the nature of our immigration, which from the beginning included many rebels from excessive group control. Moreover, the very nature of our development and the resultant mobility prevented any early marked control of the lives and activities of citizens. To a large extent we did what we wanted, we worked or did not work when we wanted, we gave or refused to give to programs and associations as interest prompted, and within broad limits each of us was the sovereign of his own life. Bryan, that great exponent of individualistic democracy, expressed it well in the phrase "Every man a king." In practice in recent years the individual has lost some of his independence, but there has appeared as yet no general questioning of the supreme importance of the individual. Even the four freedoms are significantly individualistic in nature.

It is extremely unlikely that a war of the proportions and length such as this one promises to be will leave the group in the subordinate position which it has previously occupied in our thinking. Oh, I have no doubt that we shall continue as a backslapping democracy and that the symbols of an egalitarian society will be maintained. The real test will be whether the tremendous draining of resources and rigid control of 130 million people over several years will leave more than apologists for a society which exalts the individual.

We can only touch on the possible ramifications of this anticipated change. It is not unlikely that education will experience more rigid scrutiny by the state to determine whether it is preparing future citizens for a world in which the group is dominant and in which to a very limited extent men are "masters of their fate." We can hardly expect the earlier platitudes in education regarding the individual to go unchallenged. Such platitudes will not make for good citizens in this new world.

It will not surprise me if during and following this war the social sciences experience greater surveillance than they have in the past. The reasons for this possible increased scrutiny of economics, sociology, and other social science instruction can be anticipated. One is public concern over "proper attitudes" toward this country and its institutions. It will be nothing new if the public will expect its schools not only to transmit vital knowledge but also to condition its products with a reasonable respect and a healthy enthusiasm for the government under which agencies of education exist. Publics generally expect the current cultural values to be transmitted whether or not these values will stand the test of time. No attempt is made to lay all blame upon the schools, but it is not difficult to understand the impatience of a people with its schools when its young repudiate the nation by an Oxford pledge.

The second reason for increased scrutiny of our fields rests squarely upon our own shoulders. In contrast to our serious attempts to investigate social phenomena, we must admit the spuriousness of some social science instruction. Certain teachers have taken delight in conditioning distrust of our institutions. Others specialize in a type of shallow criticism which leaves little residue of understanding and which may breed contempt for the standards of our culture. It is quite possible that the public will not want to wait for another Pearl Harbor incident to censure this type of teaching. I trust that we shall not try to protect shallow and propagandistic education under the banner of academic freedom. Rather let us make our own distinction between scholarship and sophistry. If we can not make this distinction, we should not be in the social sciences.

We may also expect the nation to establish more effective control over subordinate groups. It is quite possible that capital, labor, and

the press will not recover their pre-war liberties. Time does not permit amplification of this position.

Throughout this paper I have refrained from discussing many other post-war problems. No mention has been made of the draining of resources which otherwise would have enriched the lives of future generations. Omitted altogether is any discussion of attempted shifts in population in the after-war period. Nor has attention been directed toward possible inflation and the payment for the costs of the war. We might have ventured into the problems of poverty, relief, and unemployment which possibly lie around some corner after the war ends. But enough of prophecy! Whether one agrees or disagrees with the analysis here presented, one thing is certain. A crisis which affects so violently the lives of all citizens will bring in its wake many social problems. These problems may result from changed conditions or from changed attitudes toward conditions—it makes little difference from which.

CULTURAL GROWTH BY SUBSTITUTION¹

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That culture can be regarded as a complex set of tangible and intangible instruments manipulated by man is a commonplace in anthropological theory. Malinowski has elaborated upon this interpretation and has stressed the essential character of culture in terms of its need-fulfilling function. Linton, too, has developed the concept of man's biological, psychological, and social needs and their satisfactions through the instrumentality of cultural patterns and devices. Behavior patterns of all kinds mold and channelize whatever direct and forthright expressions of the individual self there may be, whether they are regarded as innate or as spontaneously generated by a combination of personal history and the stimuli of the moment.

A study of the processes of cultural elaboration, however, would appear to justify the view that cultural forms are not so much molders or deflectors of human behavior as they are artificial substitutes for an original, already-functioning organic mechanism. They are enforced upon the individual from without and are, in effect, external replacements for his native survival equipment. He "needs" them if he is to forego his primary impulses for the advantages of combined thought and group living. And from this point of view, social forms no less than material implements become a set of tools and devices which the individual accepts as substitutes for his otherwise adequate native vehicles for expression in dealing with other individuals. They are invaders of the organic self, and the socialized individual uses them as he would a tangible apparatus to achieve his social ends.

It is obvious from a consideration of other species that the course of evolution has deprived human beings of a biological adequacy and that they have learned to rely upon cultural substitutes instead. The question as to which came first, the biological deprivation or its cultural alternative, appears to be unanswerable, and it therefore very probably suggests a false problem. In either event the two developments are linked in an inverse concomitant relationship, and, speaking in purely descriptive terms, it seems fair to say that biological suffi-

¹Delivered before the Northern Division of the Pacific Sociological Society.

ciency has progressively given way to the elaborations and ramifications of material culture. This is precisely what most of us have in mind when we speak of the growth of civilization, or when we compare the rude, laborious, comfortless life of the savage with our own padded, supplemented existence. Primitive man takes the shock of contending with nature with his own body, his own hands and feet. Modern man articulates his connections with the hard earth by interpolating a variety of shock-absorbers ranging from shoe leather through chairs, cushions, and beds to rubber tires and multiple-storied houses. From the earth Paleolithic man, like the contemporary primitive, dug roots with his hands or at most by the use of a digging stick, the first of a long line of progressively more complex and efficient instruments that have not only severed man's direct connection with the earth but have made him less able to meet the demands of an immediate connection. For hardness of tooth and nail we have traded, for better or for worse, a multitude of special ameliorating devices external to ourselves. It is certain that the course of progress, as we commonly think of it, has been marked by a step-by-step replacement of human body functions by a series of concomitant inventions in the field of material culture.

It is unnecessary to dilate upon this aspect of the interpretation, for we are dealing with commonly recognized, if not sufficiently appreciated, phenomena. More striking are instances of cultural invasions of the sphere of the physiological functions of the human body. The development of medicines, surgery, dietetics, and corrective devices of all descriptions has called into question the wisdom of relying upon the normal physiological processes for a healthful, painless, and long-continued existence. At the first symptoms of a neuralgic disorder we are relieved of our offending teeth and supplied with synthetic substitutes; or if the disturbance has not progressed so far, the disintegrated portion of our tooth is replaced with a metal substitute for the enamel and dentine. Today we are much concerned with vitamins, hormones, and other extracts artificially introduced into the system to make up for the deficiencies which primitive man, not to mention our own grandfathers, considered to be a purely biological matter. We have made cultural facts of these biological essences; they are instruments to be manipulated at will and for human benefit no less than are hoes or steam shovels. Our concern with body-building has recently led us to distrust the undirected performances of acts

which are founded upon our animal heritage. The attention which has been given to eugenics is a case in point. So too is the concern which we manifest for infant-feeding. The majority of infants of a very few generations ago nursed at their mothers' breasts; some do still, but there is much doubt and caution about it and a decided insistence upon especially prepared pap and bottle feeding with precautions about sterilization unheard of a few decades ago in most families. The purely biological processes which formerly operated to immunize and strengthen the body are no longer relied upon; by the external application and manipulation of a variety of chemical and mechanical modifiers we dispossess the organism of many of its functions and relieve it of many of its burdens. Where once there was an organic process, now there is a cultural technique.

In the same category of substitutes belong a number of other inventions, some old, some new. Sun lamps, spectacles, braces for limbs and teeth, artificial limbs, metal plates and splints, artificial respirators, stimulants and soporifics—all these take the place of human body parts, or are designed, like our mechanical devices, to be improvements upon the unaided or malfunctioning organ. Writing, printing, the telephone, the telegraph, the radio have progressively substituted for the unassisted and unaugmented human voice and have greatly widened the audience reached. Computing machines and sorting devices have relieved the mind of the tedium of routine calculations and classifications.

That this is the way of mechanical inventions appears from the fact that so many of them at their inception strike us as ludicrous and unnecessary, if not fantastic. Many mothers even today scoff at the suggestion of bottle-feeding—it is “unnatural”; human beings were provided by Providence with the natural means. Frequently we find this argument of the unnatural offered in opposition to an innovation. Anesthetics, lightning rods, street lamps, iron plows, railroads, and the telegraph were all opposed on these grounds.² And in our own day continually popping up in the vanguard of inventions are repeated examples of contrivances which seem too humorous to contemplate seriously, the unconceptualized reason being that they presume to expropriate some function of the human biological equipment. Thus last year a patent was issued for a golf-putter equipped

² W. I. Thomas, *Primitive Behavior* (New York, 1937) pp. 726-729.

with a two-handed grip and a leveling gauge, contrived to ease the nervous tension and mechanically perfect the muscular precision involved in crucial shots. It is not unlikely that most golfers will either resent this mechanical intrusion into the sphere of muscular coordination or will scoff at its adopters as robots; but in time it may find favor just as the impersonalized typewriter has in the writing of letters. Another invader of the human field last year was a patented apparatus which wakes the drowsing motorist by blowing ammonia vapor into his face when he relaxes his grip upon the wheel—a usurpation of the functions of the body controls of fatigue and attention. Even more astonishing and ludicrous appliances for easing the strain of physical effort and curtailing the exercise of the accustomed—hence “natural”—body functions have made their appeal to the public. The magazine *Time* takes delight in bringing these to our attention. In the issue of October 9, 1939, the following oddities are noted as patents applied for: an inflated rubber bicycle seat, a motor-driven fan for removing the foam from beer, shoe chains to prevent pedestrians from slipping on icy sidewalks, a self-propelled electric iron, breast cups to prevent nursing mothers from losing milk by seepage, an electrically heated toilet seat, an ejector for removing butter from butter forks, a lip-exerciser for players of wind instruments, and an automatic mirror wiper for vanity cases. One is led to ask, what is there left for the human organism to do, what of metabolism, coordination, and effort? What remains for the old-fashioned exercise of muscle and constitutional resistance?

We need not attempt to forecast a limit to this tendency, nor need we take a Spenglerian view of its consequences. There is no reason to see either good or evil in it from an objective standpoint. Although the human physique is weak by comparison and may even lose some of its present vigor in the millennia to come, this loss is compensated for step by step by cultural substitutes; and as long as man has culture, he controls a survival mechanism which is equal to, if not superior to, that possessed by the individuals of any other species. We are not concerned with either a prognosis or an evaluation of what appears to be a fundamental attribute of culture. It is sufficient for us to recognize that man has assembled about his person an ever-increasing complexity of tangible and intangible mechanisms which have at one and the same time expropriated the functions

of his native endowments and supplied him with an unexcelled system of super-individual devices for manipulation in securing his wants.

From this standpoint, whether these buffers and auxiliary limbs have satisfied a need or needs, raises a question. It seems that often an invention (like a lip-exerciser) does not so much fill a need as create and cultivate one. Frequently, if not characteristically, the "need" is induced; the individual must be convinced that he is lacking in advantage, that his estate can be improved. It would appear that even the most fundamental aspects of social behavior have evolved by this process. There is much to be said for the view that the demands of social living entail a thwarting or a curbing of the originally adequate but essentially individualistic means of satisfying human needs, and that, for this denial, restitution must be made by society. Culture serves this function by providing artificial forms and precedures as intermediating mechanisms between the individual, his fellow members of society, and his natural environment. But what were once compensations and substitutions, in time became traditional necessities, so that a relativity of needs is established as between society and society and between different periods in the history of a single cultural continuum. And the process is continuous and cumulative; the datum of necessity constantly rises, and in our era and country the elaborations which we call necessities are far in excess of the minimum requirements for mere survival. Yet even on this plane, so far removed from bald compensation, we note that the same process is at work that first divorced the proto-human from the direct satisfaction of his personal wants. Then as now, and in one respect or another, the process of cultural growth infringes upon the individual's sovereign self, and he must be convinced that the surrender to ingenuity and artifice is not a loss but a gain. Culture indeed satisfies our needs, but, paradoxically, it also creates them.

SOME POSSIBLE CONTRIBUTIONS OF BIO-ECOLOGY TO HUMAN ECOLOGY¹

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Following suggestions made by my colleague, Dr. W. C. Smith, this paper presents a summary of the personal reactions of a bio-ecologist to a brief survey of the methods developed in the field of human ecology and makes suggestions as to possible contributions from bio-ecology to the sociological field.

Human ecology—being limited to the study of a single animal species, the human—represents a phase of animal ecology known as autecology, as contrasted with synecology, which concerns itself with the study of animal or plant communities and the interrelations of species which compose them. Human ecology uses such terms as *formation* and *association* from synecology and applies them to human communities. In research involving conservation of natural resources or other border-line territory between the fields of general synecology and human autecology, identical terms used with diverse meanings are likely to cause confusion and limit effective collaboration. To a biologist terminology having a cellular or organismal connotation seems most appropriate for human community structure.

Areas of study called *quadrats* of definite size and shape have been used to good effect, especially by plant ecologists. Such units might be adopted by human ecologists to replace census data gathered from areas of varying size and shape. Information could thus be collected and compared from places widely separated and differing greatly as to other factors. *Basal area quadrats* would lend themselves well to studies of the percentage of area covered by buildings, cultivated land, and so forth. The productive capacity of selected areas at different seasons or among different populations might be determined by adaptation of the *clip quadrat* idea of plant ecologists. Charts have been used in city studies but apparently not on the quadrat plan, which would facilitate comparisons of an area in one city with a similar plot in any other city. Permanent quadrats in dynamic areas of invasion, migration, or aggregation undoubtedly would yield valu-

¹ Abstract of a paper read before the Northern Division of the Pacific Sociological Society.

able results in a short time. Aerial photography offers an effective technique for comparing the development of areas year after year. *Transects* are useful for transitional areas and have been used to some extent in human ecology; *bisects* might also prove useful in metropolitan areas.

Instrumental records of environmental factors in human studies undoubtedly would well repay the effort and cost involved. Man can so largely control his environment that it should be of importance to discover precisely what that environment may be beneath clothing and within dwellings. Adequate mathematical treatment of data obtained by the quantitative methods suggested here is a pressing need in both bio-ecology and human ecology.

Extension of such mutual stimuli might be evoked by a closer association and integration of the social and natural sciences in field courses, surveys, and research dealing with subjects of mutual interest. This has been practised in summer-school programs in Scotland by Thomson and Geddes with favorable results.

SOCIAL ATTITUDES AND ANTI-SEMITISM¹

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Antagonism towards the Jew exists as an unquestionable fact. In Germany, and in other major nations as well, anti-Semitism has found favor as an official national policy. In this country its existence as an unofficial but very real attitude can be doubted by none.

This paper reports the results of an effort to measure anti-Semitism in a segment of the urban population in this country. The problem involved (1) the construction and testing of a satisfactory scale as a measuring instrument and (2) the use of this scale in order to discover some of the factors associated with the existence of anti-Semitic feeling.

The sample whose attitude is studied is composed of 650 University of Washington students. The cases were secured from several groups, including fraternities and sororities, Jewish organizations, lower and upper division sociology classes, lower division political science classes, men's and women's independent organizations, women's residence halls, and religious clubs. These groups furnished a wide range of variation in background factors frequently assumed to be associated with anti-Semitism: namely, religious, economic, political, and ethnic traits.

The scale was constructed in the manner suggested by Murphy and Likert², and by Rundquist and Sletto.³ Briefly this method consists of assigning arbitrary values from one to five to each of five possible responses for each of the statements which constitute the items of a scale. These responses are "Strongly Agree", "Agree", "Uncertain", "Disagree", "Strongly Disagree". The values assigned in this study were one for the least anti-Semitic response and five for the most anti-Semitic. Thus the total scores for individuals on the twenty items included had a possible range of twenty to one hundred. Statements forming the scale, formulated after careful study of the literature in the field, dealt with economic, political, racial, and religious items, and

¹ Read before the Northern Division of the Pacific Sociological Society.

² Gardiner Murphy and Rensis Likert, *Public Opinion and the Individual* (New York: Harper and Brothers, 1938).

³ Edward Rundquist and Raymond Sletto, *Personality in the Depression* (Minneapolis: The University of Minnesota Press, 1936).

with in-group-out-group friction and prejudice. About seventy statements were used originally, the final twenty composing the scale being selected from these on the basis of superior discriminative power and logical evaluation.

Table 1 presents the items making up the scale and classifies them under the category or type of prejudice to which they were logically and arbitrarily assigned. (The scale was not arranged in this order when administered.) In addition, the table shows the discriminative power of each of the items as applied to the sample studied.

TABLE 1
STATEMENTS COMPOSING THE SCALE, CLASSIFIED, WITH
THEIR DISCRIMINATIVE POWERS

Classification	Item	Discriminative Power*
<i>Religious Items:</i>	The Jews should be thought of as the crucifiers of Christ	1.06
	The Jewish religion is a noble and lofty one	1.10
<i>Racial Items:</i>	No one can be a Jew without having Jewish blood in his veins.	1.14
	Religion is the chief distinction between Jews and non-Jews.	1.43
	Jews are biologically inferior to Nordics.	1.24
<i>Political Items:</i>	The Jews of the world should establish their own nation.	1.79
	As a group, the German Jews were thoroughly loyal to Germany.	1.30
	The Jew's first loyalty is to Jewry rather than to his country.	1.80
	Jews in America do not differ from any other group in regard to patriotism.	1.64
<i>Economic Items:</i>	Before Hitler's rise, Jews in Germany held too many privileged positions.	1.08
	Closed business cooperation among themselves is a common fault of the Jews	1.76
	The number of Jews in the professions should be limited.	1.49
	The Jew is just as honest in his business dealings as is the non-Jew.	1.88
	Jews tend to be untrustworthy in their dealings with non-Jews.	1.71
<i>Ethnocentric Items:</i>	Hitler was justified in attacking the Jews.	1.49
	Germany has benefited through the restrictions on Jews.	1.47
	The Jews in Germany looked upon themselves first as Germans and only secondly as Jews.	1.44

Germany has used the Jews as a scape-goat for troubles which were not the fault of the Jews	1.16
The Jew is unable to adapt himself to the life of western Europe and America.	1.15
It is sometimes all right to ban Jews from certain apartment houses.	2.58

*The discriminative power was calculated by the technique of Murphy and Likert, *op. cit.*, with the single difference that here the highest and lowest twenty-five percentages were used, so that the test was more rigorous than that used by Murphy and Likert, who employed the upper and lower twelve percentages. Discriminative powers accepted by them for items selected ranged from .10 to 2.70.

This test simply indicated the difference between the mean score on each item of that group composing the highest quarter of the sample on the basis of total scores, and the mean score of that group composing the lowest quarter on the basis of total scores.

The conclusions to be drawn from the discriminative powers shown in the table are that all the items satisfactorily separate those individuals with considerable anti-Semitism from those with little anti-Semitic prejudice, and that the arbitrary scores have been properly assigned.

The reliability coefficients secured for the scale using the split-half reliabilities corrected by the Spearman-Brown prophecy formula ranged from .82 to .92, and that for the entire sample was .87. The reliability was further checked by means of the converted sigma and direct sigma systems of weighting the scores. The correlations between these weighted scores and the arbitrary scores were .87 and .96, so that the arbitrary scores are indicated as satisfactory.

The classifications of items given in Table I were assumed to be homogeneous on the basis of the logical assignments of the items. This was objectively checked, however, by calculating the intercorrelations of the items within each classification. These *r*'s ranged from .36 to .82. An additional measure of the extent to which each of these items varies with a common factor was secured by the application of Spearman's Tetrad Differences. Table II shows the mean extent of variation with the common factor within each of the classifications. This index is referred to as *rg*.

The amount of homogeneity within these classifications revealed by these measures indicates that they are sufficiently close-knit to warrant their use as sub-scales within the scale as a whole. Race relations theory indicates that in spite of homogeneity of items within the ethnic scale, this category should not be regarded as too rigidly separated from the others. A prejudice on an in-group—out-group

TABLE II
MEAN VARIATION WITH FACTOR G IN EACH CLASSIFICATION

Classifications	Mean rg.
Racial Items .....	.83
Political Items .....	.55
Religious Items .....	.82
Economic Items .....	.71
Ethnocentric Items .....	.60

basis may have any of several specific rationalizations. But the value of separating these items is that they make the statement of ethnic prejudice without involving a rationalization of that attitude. In other words, they attack the Jew in general instead of accusing him of any particular fault.

All the classifications being used as sub-scales, Thurstone's simplified multiple factor analysis was applied.⁴ Table III shows the first factor loadings which were secured. The extremely heavy weighting for the ethnocentric grouping indicates its importance in the general picture of anti-Semitism. Here is evidence to support the hypothesis that anti-Semitism is basically an expression of in-group—out-group, or ethnocentric, prejudice rather than a specific attitude based on particular group experiences of the gentile with the Jewish group.

TABLE III
FIRST APPROXIMATION OF FIRST FACTOR LOADINGS

Classification	Loading
Racial Items .....	.38
Religious Items .....	.43
Economic Items .....	.61
Political Items .....	.69
Ethnocentric Items .....	.91

The second problem was to investigate the experience factors associated with anti-Semitism in subjects being rated. The total scores on the scale as a whole were examined in the light of selected traits of students being tested for anti-Semitism.⁵ Mean scores were used for this purpose in most cases, although it seemed necessary also to compare the proportions of each factor found in Q1. Table IV presents these results.

⁴L. L. Thurstone, *The Theory of Multiple Factors* (Chicago: University of Chicago Bookstore, 1933).

⁵The potential range was from 20 to 100; the secured range was from 23 to 89.

TABLE IV
BACKGROUND FACTORS* ASSOCIATED WITH ANTI-SEMITISM—
PRESENTED BY MEAN SCORES AND PERCENTAGES FALLING
ABOVE THE FIRST QUARTILE

Background Factors	Mean Score	Percentage above Q ₁ (N=650)
Social Affiliation		
Fraternity and Sorority Members	53.3	46.4
Independents	49.2	26.9
Sex		
Males	53.3	43.9
Females	48.1	35.0
Church Membership		
Members	50.1	34.0
Non-Members	50.8	35.0
Religious Preference		
Protestants	49.5	32.6
Catholics	52.5	37.0
No Denomination	50.0	36.9
Political Preference		
Republicans	53.0	42.5
Democrats	48.9	29.5
No Political Preference	49.8	37.2
Radical Parties	42.3	4.5
Socio-Economic Status†		
Professional	46.5	21.8
Proprietors, managers, and officials	53.4	39.0
Clerks	50.8	37.0
Skilled workers	47.5	29.3
Semi-skilled workers	53.8	25.9
Unskilled workers	45.8	33.4

* Factors of age and university class, which revealed no measurable differences in score, are omitted.

† Alba Edwards, "Social-Economic Groupings of the Gainfully Employed Workers of the United States", *Journal of American Statistical Association*, XXVIII (1933), 377-87.

Although few of the differences between mean scores presented in Table IV can be considered significant, the proportions scoring in the highest ranges of the distribution do reveal some measurable differences. Thus fraternity and sorority members, as one might assume, number among them many more strong anti-Semites than do the Independents. Also, males appear more strongly prejudiced than do females. No apparent significance attaches to the simple fact of church membership, although the denominational breakdown shows Catholics and those with no preference to be more prejudiced in general than Protestants. The political breakdowns show what may be an approximation of the frequently mentioned radical-liberal-conser-

vative continuum. The socio-economic ratings indicate a significant difference between the skilled and semi-skilled workers, on the one hand, a slightly prejudiced group; and on the other hand, the proprietors, managers, officials, and clerks, a highly prejudiced group. Any systematic economic interpretation of the incidence of anti-Semitism must, however, deal with two facts revealed here. First, the strong prejudice of the unskilled workers and the lack of prejudice on the part of the professionals seem contrary to what might be expected; and, second, although competition due to Jewish concentrations in the class of proprietors, managers, and officials seems to be associated with an increase of anti-Semitism, this same concentration in the professional group is associated with a low degree of anti-Semitic feeling.

Conclusions from these data must necessarily be cautiously drawn, in view of the limitations imposed by the sample and the roughness of the method. If similar results should be discovered as characterizing a larger population, however, the hypothesis set forth in this paper—that anti-Semitism is a function to a considerable extent of in-group-out-group prejudice—might lead to important results. Although such a notion is not a new one, it has been neglected by writers in the field and ignored by workers in Jewish-Gentile relations. Perhaps the work of such organizations as the Jewish Anti-Defamation League would be more effective if the emphasis were placed on attacking the in-group-out-group character of Jewish-Gentile interaction, instead of attacking specific rationalizations that reflect a deeper irrational prejudice.

A VIEWPOINT FOR SOCIOLOGICAL RESEARCH IN YOUTH PROBLEMS¹

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If I were to put this outline in one sentence, it would make a very simple statement: youth problems must be analyzed in terms of social experiences. Simple though it is, little of the huge volume of literature in this field is based on such an approach. The reason probably is that G. Stanley Hall, father of adolescent psychology, in his voluminous works² sought to explain youth problems by probing the interior of the developing organism. Practically all study since, with the notable exception of a few anthropological studies and sociological studies of pathological groups, have continued to seek in the interior physical and psychological mechanism a clue to the social behavior of the adolescent and youth.

I. A Sociological Definition of Youth

G. Stanley Hall believed that the child and youth recapitulated the evolution of the race. The maladjustments of adolescence were a product of the internal turmoil that inevitably accompanied the process of physical and psychic maturation of the individual.

More recent studies are directing attention toward the external experiences of youth. The former dominance of physical and psychological concepts to which most attention has been given during this century are beginning to give way to social concepts as youth comes to be considered preeminently a period of social transition.

For the sociologist, youth is a period in which the individual, having achieved relative physiological and mental maturity, remains by virtue of group definitions socially immature. Youth for the sociologist is a period of transition from the dependent state of childhood to the socially recognized independent state of adulthood. Adulthood, in contemporary culture, consists essentially in arriving at what the group considers (1) economic, (2) marital, and (3) moral maturity (moral in the sense of being held responsible for one's conduct—not in the narrow sense).

¹ Presented before the Annual Meeting of the Pacific Sociological Society.

² G. Stanley Hall, *Adolescence* (2 vols., New York: D. Appleton and Company, 1904). Also *Youth, Its Education, Regimen, and Hygiene* (New York: Appleton and Company, 1904).

II. Working Premises

A. Youth is society-imposed—a lengthened period of social infancy. The youth group, in fact, exists only because advanced cultures have created an artificial gap between childhood and adulthood. The age group 16 to 24 years is excluded from full participation in adult life. One factor is a lengthened average life expectancy—some 63 years now, as compared to 28 to 30 three hundred years ago—which permits a long apprenticeship to adulthood; another, the development of an urban-industrial culture pattern, which makes for a surplus of manpower, and the corresponding decline of rural societies, which have always tended to merge childhood into adulthood.

B. It follows that youth problems can be understood in large part by learning how contemporary culture and social organization handicap youth in making the transitions to adulthood. It is further assumed that the psychology of later adolescence has little significance except as it is related to these forces which impinge upon the personality of the individual and which explain in large part whatever mental turmoil he may manifest. Anthropological studies suggest that the sociologist is safe in working on the hypothesis that mental maladjustments, internal conflicts, and so forth, are primarily the product of external forces which impinge upon youth in a complex society.

C. Finally, culture patterns define the social roles of youth, not innate make-up or sexual maturation. For the sociologist the problem is to analyze these roles as a product of group- and culture-conditioned behavior.

III. Socio-Cultural Experience Factors to be Considered

A. Critical in the experience of the majority of youth is the factor of migration, forcing them to make decisions and adjustments in secondary groups. In pre-industrial societies the majority spent a lifetime in familiar patterns of primary group influences. Youth most critically affected by the migration experience are those of the rural group, one-third to one-half of whom usually find their way into urban centers.

B. Closely allied with the problem of migration is that of vertical mobility, made possible by the American tradition of social climbing. This brings numerous adjustments as the youth is brought under the influence of the ethos of various groups and classes.

C. Difficulties of attaining marital maturity are increased by the radical shift from a familistic to an extremely individualistic family type, and to a romantic pattern of courtship and marriage.

D. Added to these difficulties are the frequent marked disturbances in the proportion of sexes of marriageable age, brought about by the peculiarities of population distribution in a dynamic society.

E. In the field of moral decisions, youth is faced with almost insurmountable difficulties because of the development of secularization, the emergence of moral confusion, the disappearance of absolute morality, and the breakdown of the processes of informal social control as social anonymity increases. Youth must, under conditions of living in a culture of varied standards, develop a moral self-sufficiency based on a deliberate choice of alternatives or become lost in a morass of codes. Urban culture offers no ready-made moral synthesis. One need only read a few autobiographies of college students to be convinced of the importance of moral struggles in producing emotional turmoil.

F. Moral supervision by the elders terminates early for modern youth because of the relative freedom of youth groups made possible by the high school and college. The high school experience is an influential factor in divorcing farm youth from patriarchal family patterns and in bridging the gap between the narrow experience of the farm family and the broader experience of the world outside. It is, no doubt, the first step in the venture for freedom from a demanding primary group for many youth in all levels of society.

G. Family patterns are often not a sufficient moral guide for youth who change location both in place and in social status in a society of numerous codes.

H. The difficulties of the experience of achieving adult economic status are widely recognized and more or less taken for granted. Industrial culture has excluded youth from the work-world. This trend was clear even before the depression. During the boom years of the 1920's the proportion of youth sixteen years of age gainfully employed dropped from 40 per cent to 25 per cent.³ During the depression of the 1930's the United States Employment Service had greatest difficulty placing men under twenty-five.⁴

³ Howard M. Bell, *Matching Youth and Jobs* (prepared for the American Youth Commission, American Council on Education, Washington, D. C., 1940), pp. 56-60.

⁴ *Ibid.*

I. The transition to adult economic status, when it finally is made, is difficult because there is in an industrial society no natural apprenticeship to the work-world of adults. Primitive society provides that natural apprenticeship. Agricultural society has always provided it. The family enterprise and the family life are identified. The child learns as a matter of course the work practices of adults. Mechanized agriculture has removed the child somewhat from this apprenticeship, but not entirely. Urban life has almost completely divorced him from any natural apprenticeship to work life. Add to this the fact that millions of farm youth find their way into the urban occupations, with which they have no experience, and the difficulties youth face in this sphere become even more imposing and universal.

J. More serious than the technical aspect of divorce from work experience in an urban-industrial culture is the denial of opportunity to absorb work mores and work attitudes. Farm children still absorb something of a work philosophy.

K. Age stratification is characteristic of a complex society, especially an urban society, and has the effect of isolating youth from normal participation in the full range of common social experience. The modern high school is probably the most significant institution in the experience of youth, for it tends to create a fairly well-stratified, socially isolated youth group that becomes relatively self-sufficient in making moral, marital, and other decisions. This group thus becomes a focal point of social change, forming values and attitudes toward both work and conduct that may be far out of line with more experienced adult judgments.

These are but examples of the kind of experiential factors that must be taken into account in sociological studies of youth. When their influence is adequately evaluated, we shall have a more realistic understanding of the problems and adjustments than can ever be made on the basis of the best formulated biological or psychological premises.

IV. Results to Be Anticipated

If the propositions advanced concerning the fruitfulness of directing research into the field of youth experience are accepted, data for research in youth problems are abundant, and practical programs for the improvement of the situation of youth are readily conceivable.

The problem of sociological research becomes that of understanding the effect of contemporary socio-cultural experience on the personality development, status, roles, and adjustments of youth. Youth programs will aim at modifying in some way the socio-cultural environment which provides the framework of definitions and experiences which determine the status and roles of youth.

To understand youth as a sociological experience, it is essential that we accumulate increasing data on the adjustments youth make in facing territorial shift or in shifting their position on the vertical ladder.

In the matter of horizontal shifts, I suppose there is more information on farm youth than on any other youth group, because the movement of rural youth has been a subject of sociological study for a generation. Comparatively little is yet known on the vertical shifts of migrating youth, although some data have been accumulated on farm youth. A great field for exploration is open here, since obviously many youth make such radical shifts in social status that a realignment of their social standards is required. For example, it is clear that a relatively high proportion of farm youth eventually find their way into the ministry and teaching.⁵

The field of marital adjustment is being increasingly exploited, not perhaps as much as a youth problem as a general family problem.

The sociologist remains relatively ignorant of the struggles involved in moral decisions of youth. Autobiographical data are revealing, as are diaries and other such sources, although much that personal counsellors know about youth's moral struggles certainly has never been adequately interpreted from a sociological viewpoint.

The effects of new institutions like the high school and college, which influence increasing numbers, in remolding mores of the community and in re-defining life's values and goals for youth, have never been adequately studied. A recent survey⁶ shows clearly that one effect of the school system has been to make youth hope for more vocation-

⁵ Studies dealing with the vertical mobility of farm youth are summarized in the writer's *Rural Life in Process* (New York: McGraw-Hill Book Company, 1940), pp. 117-19, 225-26. Data on territorial mobility are summarized in chapters XI-XIV.

⁶ Howard M. Bell, *Youth Tell Their Story* (conducted for the American Youth Commission, American Council on Education, Washington, D. C., 1938), p. 132.

ally than they have any right to expect. Forty per cent of a large group of youth wanted professional and technical jobs. Obviously, the school, or some influence in our culture, has developed a norm for youth which fails to conform to the real norm of a workaday world.

Little is known of the experiences of occupational adjustment as they affect the personality of youth in their transitions to economic adulthood. An American Youth Commission study⁷ is almost shocking in its revelation of the small amount of schooling needed for the average job in industry. In more than two thousand occupations, normal productivity in 59 per cent of jobs was reached either without training or with a week or less of training on the job; approximately 95 per cent of the workers received their training on the job. Almost half of the jobs require practically no education, and fewer than 10 per cent require some college education.

The sociologist will find a great reservoir of data in many fields of youth experience awaiting interpretation and orientation in terms of sociological concepts if he approaches youth problems from the viewpoint recommended. Only as the youth problem is understood in terms of socio-cultural experience can he begin to have any clear conception of its scope and implications.

During the last decade—when we had the largest youth group our nation has ever had and a larger one than we are likely to have again, at least for a number of years—two new programs came into existence: the NYA and the CCC, both new educational-work programs designed to bridge the gap between the experiences of immature childhood and those of social adulthood. When youth problems return again to the focus of interest, as they are certain to do unless a huge standing army demanding large numbers of youthful recruits each year is kept intact, they will again constitute one of the major issues of urban-industrial societies throughout the world. Sociologists may well lay the groundwork of careful research for practical programs that will see the youth problem of contemporary society in its entirety.

⁷Howard M. Bell, *Matching Youth and Jobs* (prepared for the American Youth Commission, American Council on Education, Washington, D. C., 1940), pp. 56-60.

AN EMPIRICAL TEST OF THE THEORY OF FUGITIVE BEHAVIOR¹

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Few subjects which concern the social psychologist have attracted more popular attention than have fads, fashions, crazes, rumors, and other transitory patterns of behavior. Yet to the profession they have presented a most difficult field for the application of scientific methods. Early attempts to explain such phenomena in terms of imitation and suggestion, or through some form of psychic contagion, placed them in the borderland of the abnormal, almost beyond the pale in our science. As a result, research in this field has fallen into disrepute, and little work has been done.

In a recent attempt to furnish a workable theoretical analysis and a comprehensive classificatory scheme for the study of collective behavior, R. T. LaPiere has again brought this topic to the fore.² He has recognized certain common elements in fads, fashions, rumors, and crazes, and has proposed to call them "fugitive behavior".

La Piere has, moreover, broken with the traditional point of view and has assumed such processes to result from normative interaction within a definable type of social situation. His theory may be summarized under three heads:

(1) The processes here termed fugitive originate and diffuse through informal social groups of the congenial type. These casual gatherings are generally unorganized, and their function is conceived to be chiefly recreational.

(2) The basic nature of the process consists of interaction between the members which takes the form of a competitive struggle for prestige and conversational leadership within the group. The new style, fad, bit of rumor, or other innovation is used, not for the intrinsic satisfaction to be derived from its use, but for its attention-getting power. In the measure that such innovations are successful attention-getters, they will tend to be used again by members of the groups as bids for prestige in other similar situations. Thus they diffuse through informal channels of personal contacts, and the number

¹Read before the Annual Meeting of the Pacific Sociological Society.

²R. T. LaPiere, *Collective Behavior* (New York: McGraw-Hill Book Co., 1938), Chapters 9 and 13.

of persons affected increases in geometric ratio as the current radiates through large sections of society. This process produces the rapidly accelerating pace at which such patterns loom up on the social horizon. The motivation of such behavior is, then, the simple wish for recognition, and the nature of the process is merely social interaction within the particular type of situations.

(3) According to the theory, behavior of this type is essentially unpredictable. This is not to imply that the phenomena are intrinsically indeterminate or uncaused. Rather, their unpredictability springs from the multiplicity of factors which affect the casual interaction processes within such unorganized groups, and the resultant complexity of the causation.

This paper reports the results of a study which attempted to subject this theory to an empirical test by a survey of a field in which such processes are thought to be operative. The aim is to determine whether the hypothesis, when applied to such an actual situation, fits and helps illuminate the observed facts.

The field chosen is that of best sellers in modern novels. As a research problem this subject has an advantage over many others in that some of the variables are matters of record and can be stated quantitatively. Advertising, reviewing, sales, the previous sales record of authors, and such special items as book club selection and literary prizes fall into this category. Moreover, the phenomena are recurrent under comparable conditions every season. Most of these advantages would be lacking in a study of such an isolated fad as Pee Wee Golf or the spinning of Yo Yos.

The method employed was to make an intensive study of the factors which might conceivably have affected the sale of a group of modern novels to determine whether the processes operative there were those of fad, fashion, and rumor, and, if so, whether the analysis of fugitive behavior as outlined above illuminates heretofore unexplained facts about the popularity of best sellers.

A study was made of some 235 novels of uniform price range written in English and published in America, chiefly between 1935 and 1938. Their sales were obtained by weeks or months, the amount of advertising and other promotion they received was determined, and the reviewing was quantitatively measured and qualitatively rated. The previous books by the authors were studied, and their sales determined. Finally, the subject matter, literary merits, and other intrinsic

qualities were compared. In each case an attempt was made to determine what relationship existed between these measurable factors and the sales achieved by the various books. In addition, it was necessary to become familiar with the trade practices of the book industry. This was done through reading the literature of the trade and through contact with booksellers and critics.

In the results of this study, several facts stand out which have a bearing on the theory under consideration.

(1) The measurable variables correlate significantly with sales of low and average sellers, that is, those with a sale of fewer than ten thousand copies. This includes about 90 per cent of all novels in this class in the period of the study. But none of these variables correlate significantly with the sales of the upper 10 per cent of novels, which we have called best sellers. This fact is illustrated by the following table:

Correlation between Sales and Various Related Factors in Two Groups of Books

Variables	1935 Sample of Low Sellers			Best Sellers of 1933-38		
	N	r	P.E.	N	r	P.E.
Advertising placed before publication date with total sale	77	.76	.03	50	.28	.09
Total reviewing (in words) with sales	77	.52	.05	50	.10	.09
Sales of preceding book with sale of current book	54	.52	.07	37	.05	.11

Evidently factors are operative in the best-seller group which are inoperative or less effective in the sales of other novels.

(2) A second, and related, fact is that those very qualities and advantages which are conducive to higher sales among low sellers are found in greater amount among best sellers than among low sellers. That is, best sellers as a class exceed low sellers in advertising, reviewing, author prestige, and miscellaneous favorable items, although the correlations actually obtained between these factors and the sales of the best sellers are comparatively low.

For example, the average advertising prior to publication received by the fifty best sellers was almost three times as great as the average spent on the total season's offering of novels of the same class, and the advertising during the first month was five times as great. The best sellers were reviewed twice as much as the average novel, and a larger proportion of them were book-club selections and received literary prizes or other distinctions.

It is apparent that these same advantages which promote greater sales among the rank and file of novels also increase the probability that the books possessing them will break into the best-seller class. But certainly not all of them do, and the low correlation between the sale of this class of books and the measurable variables presented shows that the *extent* of their success is not attributable to these factors alone.

These facts seem to suggest that book sales are, in general, composed of two parts: (1) a certain basic sale accounted for by the factors mentioned above as they influence the behavior of specific interest groups which compose the book-buying publics, and (2) additional sales produced by the operation of some other, unmeasured factor. The latter have been termed "oversales".

That this residue of unpredictable sales is the result of fugitive processes is largely an inference, based on the fact that it seems impossible to account for it on other grounds, and that this explanation seems reasonable. It is merely the hypothesis that the processes of rumor and fad, set in motion by the early success of the book, the enthusiasm of persons who talk about it, special publicity stunts, censorship, and other items which give it prestige not only increase the percentage of persons in the regular book publics who buy the book, but draw in a nebulous fringe of persons who almost never buy books. When this occurs the sales run far beyond the level which might reasonably have been anticipated from the factors that influence the usual book-buying publics.

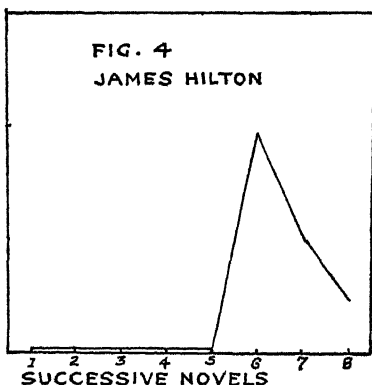
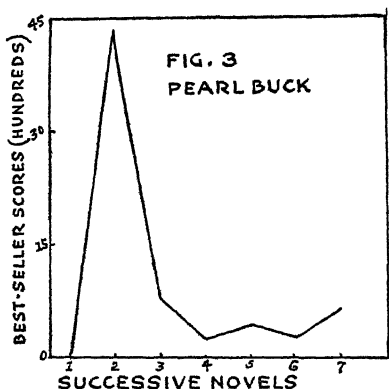
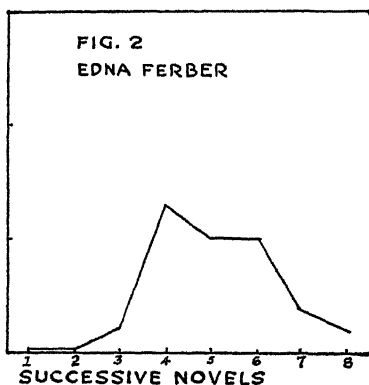
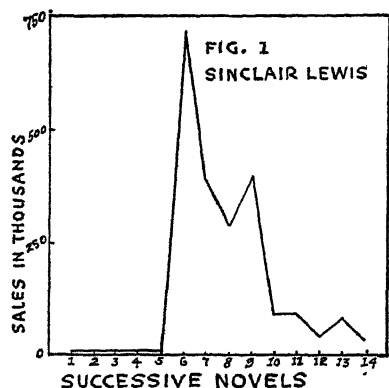
This hypothesis is useful further in interpreting three types of phenomena which have long puzzled persons in the book industry: (1) the appearance of surprise sellers which achieve outstanding success with few apparent advantages: (2) their opposites, the disappointments, which sometimes fall far below expectations; and (3) an observed tendency for the sales of subsequent books by best-selling authors to decline markedly.

Data supporting this last tendency are presented in the chart which shows some typical sales records. It will be noted that a best-selling author does not build up his popularity by slow accretion to a small following of interested readers. Rather, he jumps to popularity with a book which syzkrocks to sales greatly above his previous record. At the same time, such events are almost never complete surprises. Best-selling novels, even those by unknown authors, are books that have been heavily promoted and have received enough other advantages to almost assure them of superior sales. Nevertheless, the outstanding sales of a best seller are quite out of proportion to what can reasonably be attributed to these facts alone. They become understandable, however, if it is assumed that these advantages not only stimulated a basic sale among interested groups, but also served to give the books distinction by which they bid for the attention of a larger nebulous public through becoming the objects of rumor and fad.

Outstanding disappointments, cases in which numerous favorable conditions fail to produce sales commensurate with publishers' expectations, may be presumed to represent cases in which the fugitive process failed to operate, did not spread far, or perhaps operated unfavorably. Without exception, they too have good basic sales, as would be expected from their measurable advantages, but merely failed to go beyond that amount. They are not actually failures, but they do not achieve stardom and perhaps fail to pay for extravagant promotional campaigns and excessive first printings.

Thus, when either surprise successes or outstanding disappointments occur, the variability is not in the basic sale, which is fairly predictable, but in the "oversales," where, according to the hypothesis, the unpredictable fugitive process is operative.

The hypothesis likewise furnishes a reasonable explanation for the declining sales characteristics of subsequent books by best-selling authors. Reference to the chart reveals that authors who have jumped to best sellerdom from relative obscurity show a marked decline in sales on their subsequent books. This phenomenon is consistent throughout the study and would appear to be a pattern of sales characteristic of such authors. If this decline is to be explained in terms of the intrinsic qualities of the books, it will be necessary to assume a general deterioration in the quality of subsequent books by best-selling authors, a hypothesis which seems untenable. Nor can it



Approximate sales of successive novels by best-selling authors.

Figures 1 and 2 are based chiefly on publishers' claims as to sales. Figures 3 and 4 show scores derived from best-seller reports which were found to correlate well with actual sales. For the most part, sales of cheap reprints subsequent to the season of publication are not included. In Figure 1 the sales of *Mantrap* have been omitted as atypical.

be explained by declining promotional efforts of publishers and attention by reviewers, for the industry and the critics devote much more attention to such books than to others, and often persist in doing so long after it would seem apparent that the special effort could not be made to pay.

On the other hand, if a large part of an author's first big success is attributable to "oversales" which arise out of fugitive behavior, these sales will be repeated only if the fugitive process is again operative. The probability that it will be operative is perhaps en-

hanced by two factors. The author's name is now known to a large public, and his prestige will attach to his subsequent books. At the same time his personal following of interested readers has been increased, and a larger number of "basic" sales is to be expected. These readers will constitute a large nucleus for the origins and spread of rumor and fad in relation to the books. But the subsequent books lack the novelty the first one possessed, and successive books will possess this quality in diminishing amounts. Elapsed time and intervening best sellers take the author out of the focus of attention. After a number of best-selling books, an author's value as an object of rumor and fad becomes nil. He is a worn-out topic of conversation, and if discussed at all he can be discussed without the reading of his latest book. His sale is, therefore, soon limited to a genuinely interested public, and this tends to decline through death of members, loss of interest, and so forth. Neither the tricks of advertisers and reviewers nor even a club selection or a Nobel prize can stage a comeback for him. This has been repeatedly demonstrated in this study. Sinclair Lewis, Pearl Buck, Edna Ferber, James Hilton, and H. G. Wells are notable examples.

The theory, moreover, states that the basic process consists of a competitive struggle for prestige, in which the book is used by the reader for its attention-getting value rather than for the intrinsic satisfaction derived from reading it. If this be true we should expect to find no more than a limited relationship between the intrinsic qualities of best-selling novels and their sales. This was indeed the situation. No particular literary quality, style, subject matter, timeliness, or other intrinsic quality was found to be essential to best sellerdom. The majority of best sellers deal with contemporary times and American settings, and with personal and family relationships rather than broader social ones. Romance is found more frequently than is realism. Especially rare among best sellers of the period was the problem novel of social protest. But all types do appear among best and poor sellers, and the implication is clear that within rather broad categories laid down by fashions or tastes the selection of best sellers is not based on their intrinsic qualities. If a book becomes a fad, if it is the object of rumor, it will be bought regardless of intrinsic qualities. *Grapes of Wrath* was probably elevated to the best-seller class by the censorship imposed upon it and *in spite of* its strong social

implications. Once it was banned and burned and heartily enough condemned, people just had to read it.

That books are not read for their intrinsic merit is further suggested by the viewpoint of many persons in the book industry itself. O. H. Cheney, for example, in his *Economic Survey of the Book Industry*, says, "When a book becomes the thing to read, and sales burst all bounds of the normal book-buying group, it hardly matters whether the new buyers can read the book, or understand it, or even pronounce the title."³

The unpredictability of the fugitive process is related to the above facts. Were best sellers bought for the intrinsic pleasure derived from the reading, one might, by analyzing the books and measuring readers' tastes, determine what makes a best seller, and from his findings predict the next one. But the fugitive process lies in the use of such things for their extrinsic, attention-getting value in a designated type of situation. Hence causation lies in the situations quite as much as in the nature of the book. Prediction cannot, therefore, be based on the qualities of the book alone. Nor can it be based on the nature of the situations, for they are too varied and transitory to measure. Thus for practical purposes the fugitive process is unpredictable.

It should be noted, however, that there is no implication in the theory that the phenomena in this field are indeterminate or uncaused. Rather, the unpredictability of best sellers is an empirical fact only and stems from the nature of the fugitive process and the kind of social situations in which it operates.⁴

Thus the implications of the theory of fugitive behavior as applied to this field seem for the most part reasonably well established. Best-selling novels result from processes comparable to those of fads, fashions, and rumor, and furnish an example of that type of behavior which has been termed fugitive. If the test of theory is its ability to illuminate facts, it would seem that the theory under discussion has survived such an empirical test.

³New York, 1931, p. 83.

⁴The writer feels that this phase of La Piere's theory is most vulnerable, not only because of the philosophical implications that the phenomena are somehow different from other types of phenomena in that they are not subject to prediction, but because the data of the study here reported seem to make it possible to predict the sales of even the so-called "surprise sellers" with far greater than chance accuracy. But this point will have to be treated in a subsequent paper.

SOCIAL PROCESSES IN PIONEERING¹

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The epic of the United States was three hundred years of westward movement of population and of pioneering.² For fifty years American historians have been exploiting this theme in monographs and full-length histories of the United States.³ In the last few decades some of the economic historians also have given this theme rather large consideration in their works.⁴ The American economists, however, have given little attention to the special influences of the westward movement in their systematic treatises, having continued to press their economic analysis of the industrial life of the United States into the English mold of the classical economists. The political scientists in their absorption with the structure rather than the dynamics of government also have neglected the influences of the westward pioneering movement on American politics and government.⁵ American sociologists, likewise, have failed to give any special attention to the influences of the West on American society and institu-

¹ Read before the Annual Meeting of the Pacific Sociological Society.

² James T. Adams, *The Epic of America* (Boston: Little, Brown and Company, 1931); Charles A. Beard and Mary A. Beard, *The Rise of American Civilization* (New York: The Macmillan Company, 1933).

³ Frederick J. Turner, *The Frontier in American History* (New York: Henry Holt and Company, 1920); F. L. Paxson, *History of the American Frontier, 1763-1893* (New York: Houghton Mifflin Company, 1924); D. E. Clark, *The West in American History* (New York: Thomas Y. Crowell Company, 1937); Everett Dick, *The Sod-House Frontier, 1854-1890* (New York: D. Appleton-Century Company, 1937); I. F. Woestemeyer, *The Westward Movement* (New York: D. Appleton-Century Company, 1939); H. E. Briggs, *Frontiers of the Northwest* (New York: D. Appleton-Century Company, 1940); Everett Dick, *Vanguards of the Frontier* (New York: D. Appleton-Century Company, 1941).

⁴ Katherine Coman, *The Industrial History of the United States*, Rev. Ed. (New York: The Macmillan Company, 1920); T. W. Van Metre, *Economic History of the United States* (New York: Henry Holt and Company, 1921), Part V; L. B. Schmidt and E. D. Ross, *Readings in the Economic History of American Agriculture* (New York: The Macmillan Company, 1925), Parts II and III; E. C. Kirkland, *History of American Economic Life*, Rev. Ed. (New York: F. S. Crofts and Company, 1939); R. M. Robbins, *Our Landed Heritage* (Princeton: Princeton University Press, 1942).

⁵ Charles A. Beard, *American Government and Politics*, 5th Ed. (New York: The Macmillan Company, 1928) has given more attention to the influence of the West on American politics and government than any other American political scientist. James A. Bryce, *American Commonwealth* (New York: The Macmillan Company, 1913), Vol. II, also recognized Western influences on American political institutions.

tions.⁶ The study of frontiers in pioneering, however, is a challenge to the American sociologists, particularly those living in our last West. The biggest and most influential fact of American history cannot be overlooked in the writing of a well-rounded American sociology.

A sociological analysis of pioneering can be approached from various viewpoints. In this paper—which draws its data from 150 systematic interviews with pioneers living in six counties in Washington and having come to the state between 1870 and 1910—the analysis is in terms of social processes.⁷ Pioneering in its first twenty years is essentially a set of processes—a becoming, a new society in the making, a continuous adaptation and adjustment to new conditions.⁸ The social processes observed in the pioneering period of eastern Washington and treated in this paper are selection, isolation, co-operation, accommodation, assimilation, and acculturation.⁹

Selection. European sociologists have made much of social selection in the migration of peoples. The population of pioneer areas in the United States was selected both before and after migration. Special types migrated to the frontier. These included the physically strong and healthy, the adventurous, the low agricultural middle class, the young man without promise of inheritance, the industrious and energetic, the young fellow running away from a misdeed, the young woman following her sweetheart, those looking for an easy way to get a piece of land to dispose of quickly at a profit, and a few sharpers, exploiters, and criminals who followed in the wake of the worthy

⁶ The author in his mimeographed manual, *Introduction to Sociology* (Pullman, Washington: Department of Sociology, 1941) has endeavored to show how the westward movement has influenced American communities and social institutions. J. G. Leyburn, *Frontier Folkways* (New Haven: Yale University Press, 1935) has used William Graham Sumner's concept of folkways in an analysis of frontiers.

⁷ The author's "Pioneer Social Adaptation in the Palouse Country of Eastern Washington, 1870-90," *Research Studies of the State College of Washington*, VI (1938), 131-59; "Pioneer Social Adaptation in Northeastern Washington, 1885-1910," *Research Studies of the State College of Washington*, VIII (1940), 85-109; and "Pioneer Social Adaptation in Lincoln County, Washington, 1880-1900" (soon to be published in the same series). The data and conclusions in these three articles are drawn from the 150 systematic interviews that the author had with the pioneers. These interviews have been typed and stored in the files of the Department of Sociology of the State College of Washington.

⁸ E. E. Eubank, *The Concepts of Sociology* (New York: D. C. Heath and Company, 1932), Chap. XIII; and *Publication of the American Sociological Society* (Chicago: The American Sociological Society, 1932), XXVI, pp. 1-61.

⁹ No question is here raised as to the specific social processes or the number of processes that are actually observed in society. The six processes treated in this paper are the ones that seemed most obvious in pioneer communities.

pioneers or preceded them to take advantage of them when they arrived.

After the settlers were in the pioneer areas, social selection continued its sifting. The adventurer passed on to other frontiers; as soon as the fellow who made a pretense of homesteading to get a piece of land for speculation had proved upon his claim, he sold out and passed on to another frontier. The inexperienced and not very industrious lad who thought life would be easy on a rich prairie homestead was soon disillusioned and returned to "civilization." Those who could not stand loneliness returned to areas of more social contacts. The cattle rustler and the horse-thief left the community when the pioneers organized to stop the depredations and when the county sheriff began to function. The isolation of the pioneer community was especially favorable to bachelor attitudes and habits, and they formed a large part of the frontier population. After twenty-five years of settlement the social precipitate was a population for the most part of sober, industrious, law-abiding, honest, democratic citizens, somewhat overweighted with bachelors and men and women of young middle age.

Isolation. The frontier isolated its inhabitants. Some of the earliest pioneers reported nearest white neighbors five, ten, and even twelve miles distant. Three pioneer women stated that they did not see another woman for four months during the deep winter snows. Time and again the pioneer women told of their loneliness in the first few years of residence in their new homes. The excessively high proportion of bachelors aggravated the isolation of women. Social distance was often a more isolating factor at first than physical distance. Northerners and Southerners still suspected and avoided one another in the 'seventies. In one area practically all the Northerners gravitated to "Union Flat" and Southerners to "Rebel Flat", names still used today for these settlements. In a number of the new communities it took years for Germans, Swedes, Norwegians, Danes, Scots, Englishmen, and Canadians to overcome the isolation of nationality differences. Communication with the outside world was limited and difficult. Some pioneers reported that it required as long as twelve months for letters and papers from their old communities to reach them. One pioneer said, "Every settler became a news man passing on to everybody else what he heard"; and another stated, "All social

gatherings were chiefly gossip parties about the news." Traveling strangers were kept overnight by many settlers because they brought news of the outside world.

Cooperation. Much has been said about the individualism of the American pioneer, and the facts of his many cooperative activities have been overlooked. It is doubtful whether any other group of Americans has ever practiced as much voluntary cooperation as American pioneer farmers. Prince Kropotkin could have written an excellent chapter in his *Mutual Aid* on the voluntary cooperation of these pioneers. In Washington the pioneers cooperated in building forts, houses, barns, trails, roads, bridges, schoolhouses, churches, and grange halls; in exchanging farm work and particularly in harvesting, rounding up livestock, and driving cattle to market; in hauling supplies to and from markets; in forming livestock protective associations; and in maintaining law and order when rowdies got out of bounds.

Accommodation. Pioneers told of accommodating themselves to many situations they did not like and could not change. Southern Democrats had to find a way of getting along with neighboring Middle Western Republicans. Southern Baptists and Methodists had to tolerate and respect Bavarian Catholics. It required great restraint on the part of some settlers not to bring about Indian wars and massacres by dealing with certain Indians in the manner which these settlers thought the Indians deserved. The high-priced merchant with his "cash-up" sales infuriated a whole community of settlers, but there was no way of getting along without him. The money-lender who charged two per cent a month on loans was regarded as a Shylock by many settlers, but his costly favors were indispensable to the pioneers who had arrived "broke" and had to have a little cash to get started. The honest, industrious settler who knew he lived next farm to a sneaking cattle-rustler and horse-thief had to put up with his undesirable "neighbor" while he kept a close eye on his own livestock.

Assimilation. Twenty to fifty per cent of the settlers in some of the pioneering communities came from foreign lands. Native Americans and foreigners homesteaded lands, lived side by side, and raised the same kind of crops. Language, newspapers, government, schools, and farming methods were essentially American, and the foreigners had to learn them. Many pioneers related with good humor their

first floundering efforts to become Americanized. At the crossroad stores foreigners spoke their first few words of English and got their first lessons in American politics. They bought and consumed the same goods as native Americans bought. Natives and foreigners often mingled in Sunday School and church services at the little one-room schoolhouses. In regular school, children of foreign-born parents read the same books, spoke the same language, and played the same games. The various types of voluntary cooperative efforts already described above also contributed greatly to assimilation. The intimate primary relationships of the pioneering neighborhood undoubtedly made it one of the most effective forces in Americanizing millions of foreign-born immigrants and their children.

Acculturation. The assimilative process among diverse population elements in the pioneer communities was not altogether unilateral. It was bilateral and even multilateral, the result being an acculturation—a fusion of cultures—that affected all groups. Some of the last American frontier communities in Washington were settled by Northerners, Middle Westerners, Southerners, Germans, Swedes, Norwegians, Danes, Englishmen, Scotchmen, Irish, and Canadians. How to show quantitatively the multilateral acculturation of such a variety of intermingling peoples is perhaps an insuperable sociological task. What the acculturated precipitate of the social mixing of half-civilized Indians, “bowie-knife Tennesseans and Kentuckians”, “cow-milking Yankee Puritans”, “beer-drinking Germans”, “Kansas jayhawkers”, “lutefisk Scandinavians”, and “wild Irishmen” may have been would be difficult to analyze scientifically.

NOTES ON THE CHANGING MEXICAN FAMILY¹

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In contrast to the Pilgrim fathers of the United States, the Spanish *conquistadores* came without women. Marriage with them was "a seizure, not a courtship". The inferior role played by women in Spain was matched by their almost complete submission among the Aztecs. Aztec daughters were taught modesty, respect and obedience. Even today Mexico is a man's country. There is, it is true, a great deal of respect for women as mothers, but not for women as companions. Although the revolution brought legal divorce, few women have had the courage or the economic independence to take advantage of it.

Among the wealthy it is common for a man to have a conventional wife and family in a so-called *casa grande*, or big house, and a mistress and perhaps another family in a *casa chica*, or little house. Mexico has a strong tradition favoring sex expression for the male. It is no doubt this philosophy of sex expression together with a conviction that the custom keeps couples together which permits well-behaved male prisoners to have conjugal visits.

The stricter Catholic families, whether rich or poor, regard close chaperonage of young people as desirable. This makes the traditional courtship patterns very different from those in the United States. Actual choice of a husband by the girl's family is, however, not as common now as formerly.

In general, as would be expected, change is more rapid in the cities than in the towns or villages, and in the middle class than in the upper or lower classes. Isolated village Indians and provincial upper-class families respond more slowly to modern influences. Such change as there is in the Mexican family seems to be largely a product of three factors: (1) industrialization, (2) the opening of new paved highways, and (3) the popularity of American movies. Under the influence of such factors as these, together with the recent expansion in public education, new problems will be created; but in spite of these difficulties Mexican marriage and family life will surely become less fascist and more democratic.

¹ Summary of a talk delivered from an outline before the Northern Division of the Pacific Sociological Society. A paper on this topic is to appear in the *American Sociological Review*.

CHANGING TRENDS IN THE GROWTH OF METROPOLITAN COMMUNITIES¹

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For a century and a half our cities have had such a positive, rapid rate of increase, decade by decade, that it seems to have been taken for granted that the same rate of growth would persist and that cities would continue to grow indefinitely. The rise of the industrial-commercial metropolis was so closely related to the nation's industrial development that it was assumed further industrialization would assure a corresponding growth of great cities. Predictions were freely made that the leading metropolises would shortly become great skyscraper cities with populations of ten to twenty million people. The 1940 census has completely shattered these assumptions.

The urban rate of increase suffered a sharp decline during the past ten years. This decline was most marked in the large cities. In the first twenty top-ranking cities with populations of 400,000 or over, only three had substantial gains: namely, Los Angeles, New York, and Washington. The other seventeen cities remained stationary or declined, having a total gain of only 122,771.

Of the ninety-two cities having a population of 100,000 or over, twenty-eight lost inhabitants and twenty-eight had negligible gains, the losses and gains practically canceling each other. Thus fifty-six out of the ninety-two largest cities made no net addition to their population as a group.²

Comparing the growth of these ninety-two cities with other groups, one finds their position in the national averages completely reversed from that of earlier decades. They gained only 5 per cent, compared with a gain of 6.4 per cent for rural areas, of 9 per cent for cities of ten to twenty-five thousand, and 6 per cent for cities of 25,000 to 100,000.

Regional comparisons in urban growth are also significant. Approximately two-thirds, or fifty-nine, of the ninety-two cities with populations of 100,000 or over are north of the Mason-Dixon Line. These cities had a gain of only 2 per cent, whereas those of the

¹ Read before the Annual Meeting of the Pacific Sociological Society.

² Census data for 1940 are taken from preliminary reports of the Bureau of the Census. Summaries given in this paper are calculated from these reports unless stated otherwise.

South gained 13 per cent and Western cities gained 11 per cent.³ All of the twenty-eight cities in this group which lost population are north of the Mason-Dixon Line.

The 1940 census reported 140 metropolitan areas, including cities of 50,000 and over. Forty-three central cities in these areas lost population. Of these, twenty-three are in New England and the Middle Atlantic States, fourteen in the North Central States, and four in the West Central States. Thus forty-one of the forty-three central cities which lost population are in the industrial areas of the North, where it was assumed urban growth should continue to be most pronounced. That large cities, in such numbers, should cease to grow, even for a decade, has more than passing significance.

What happened to reverse suddenly the growth trends of the great industrial-commercial metropolises, particularly of the North and East? The answer to this question may be found by examining the sources of their growth.

The rapid growth of cities during the past century can be traced to four factors: namely, annexation of suburban territory, natural increase, immigration, and migration from nearby farms and villages or more remote regions. We may dismiss the first three as unimportant sources of growth in the present and future.

Cities which have freely annexed territory to increase their taxable wealth and population are finding, in some instances, that the cost of supplying public services to the periphery of the city is greater than the taxes collected from such additions. As the growth of the city declines, further additions of territory will involve the city in increasing costs and debts. It is safe to assume that cities will discontinue this method when they recognize its dangers.

The stream of immigration has now slowed down to a mere trickle, and urban birth rates are considerably below the replacement level. This deficit in birth rates is most pronounced in cities of 100,000 and over, where the net reproduction rates of the white population are 24 per cent below a stationary level.⁴ If the large number of immigrants in these cities follow the American practice of family limitation as they become more fully assimilated, we may expect this deficit to

³ *Population Index*, October, 1940, p. 247.

⁴ B. D. Karpinos, "The Differential True Rates of Growth of White Population in the U.S.," *American Journal of Sociology*, XLIV (Sept., 1938), 260.

increase. If cities, therefore, depend upon the above sources of growth, their decline will be inevitable.

Migration from the farms and villages which produce a surplus population is thus the one remaining source from which the large cities may hope to maintain their growth. Whether this migration will be sufficient to compensate for the loss of immigration and the deficit in urban birth rates is questionable. Rural families also tend to become smaller, and the consequence of these changes is already slowing up the growth of the nation, decade by decade.

On the basis of present trends, the nation's population will become stationary in a few decades. If cities, therefore, merely maintain their proportionate share of the nation's growth, they should reach their maximum growth in a few decades. That large cities will maintain their growth contrary to these trends, or that they will again return to their former rates of increase can be expected only if a large continuous stream of people is drawn from the farms, villages, and small cities to the metropolitan centers. Can this be assumed?

The 1940 census gives further evidence that "cities are emptying at the center and spilling over their own corporate boundaries."⁶ Thirty-two per cent of urban population is now found in metropolitan districts outside the central cities. The census totals for 1930 and 1940 are not strictly comparable—because of some changes in the basis of calculation. Taking the ninety-six metropolitan districts reported in 1930 and comparing the 1940 figures for the same districts, however, one finds an increase of 30.2 per cent in the areas outside the central cities. This is approximately four times the rate of increase of the central cities involved.

Cities which have become stationary or have declined have generally reported substantial gains in the outer areas of their metropolitan districts. In the group of twenty top-ranking cities, the gain in these outer areas was eight times the increase registered within the cities themselves.

The population living in the metropolitan areas outside the central cities varies widely, and a more detailed analysis is not possible here. There is, however, a significant increase in the rate of growth from the center of the metropolitan district outward. The smallest gains were recorded for the central cities. Gains in the incorporated places

⁶ National Resources Committee, *Our Cities: Their Role in the National Economy* (Washington, 1937), pp. 38-39.

outside the central cities were, on the average, three times as high as in the central cities, and gains in the unincorporated areas were six times as high as in the central cities.

The familiar pattern of the large compact city with its single center was a characteristic product of the 19th century. Automobiles, trucks, rapid transit systems, power lines, improved systems of communication, modern highways, chain stores, branch businesses, vast systems of public services and public improvements, the speculative promotion of suburban real estate and similar developments represent the means and agencies which are gradually breaking up the compact metropolis based on steam as the primary source of power.

The small community, on the other hand, has been emancipated from its isolation, drudgery, and inferior standards of life; and the opportunity of living adjacent to the metropolis without giving up its technical and cultural facilities holds certain attractions to the urban dweller. The hope of achieving better living conditions, greater security, and a more desirable family and community life, on the one hand, and the desire to escape from high taxes, rents, insecurity, congestion, slums, and other intolerable conditions, on the other hand, create an inner urge which is driving people out of the city.

The Chicago *Daily News* recently referred to the center of Chicago as a "great rotten core," and the New York *Times* declared decentralization to be "New York's problem Number One." The City Planning Commission of New York in its report for 1940 says:

New York faces accelerated deterioration in older sections with corresponding decreases in realty valuations as slums multiply.

Since the city is near the limit of its borrowing and taxing power, it cannot meet the needs of scattered new sections for facilities and services. It is equally clear that the city, under its present limitations, cannot meet the demands for capital improvements and services.

A slowing down of activities, a leveling off of population, and declines in actual real estate values with a simultaneous increase in the demand for city facilities and services have created a situation never before experienced by the community.*

From a preliminary survey of 221 leading cities conducted recently by the Urban Land Institute of Chicago, one gains the impression that the heart of the metropolitan community is showing obvious signs of weakness. This survey shows that central business districts are

* *Annual Report, City Planning Commission, 1940, the City of New York, pp. 9-10.*

deteriorating; the gross volume of business is declining; property values and physical appearances are deteriorating; slums and blight are spreading over sections once populated with middle-class people with good purchasing power; investment houses are "blacking out" great areas on which loans will no longer be granted; and these cities are facing financial ruin if decentralization continues.

This report concludes:

The great period of skyscraper building appears to be over. In general there is indication that skyscrapers have not and do not pay. A fifth of their space is vacant. The high cost of high buildings cannot be supported apparently by high rents for the privilege of doing business in them. Many businesses are seeking cheaper space, and many of them are going into out-lying areas.⁷

It is not within the province of this paper to discuss the problems of municipal finance. Every taxpayer, however, knows it is not a characteristic of city governments to reduce activities and to cut expenditures to the bone. This is not the fault of anyone in particular, but rather of the urban way of life. The metropolis conceived merely as a place to trade and carry on business becomes intolerable as a place to live. As factories, shops, railway terminals, markets, warehouses, and skyscrapers develop into a complex conglomeration of stone and steel, the city must provide the social and cultural facilities which will make life in the city tolerable and attractive. The complex system of public services, built up when the city was growing, must not only be maintained but be enlarged if the city is to counteract the influences which attract people elsewhere.

Decentralization thus confronts the metropolis with the two horns of a dilemma. If large public expenditures are not continually made to give the city superior advantages, people will not be attracted to it; but, if increasing expenditures are made when property values and the volume of business are declining, people will seek cheaper locations farther from the center to escape increasing tax burdens. The attempt to retrieve the loss of revenue at the center of the city by imposing more taxes at its periphery only serves to drive the reluctant taxpayer beyond the city limits, where he seeks to profit by the superior facilities of the city without assuming responsibility for their maintenance.

⁷ *Decentralization, What It Is Doing to Our Cities* (a pamphlet published by the Urban Land Institute, 22 W. Monroe Street, Chicago, 1940), p. 1.

These difficulties are inherent in the situation now confronting many leading cities which have become vulnerable in the very fact that their phenomenal growth has resulted in the pyramiding of values to a point where business must operate on a basis of diminishing returns. As the cost of doing business rises and incomes decline, migrations to cheaper locations follow. This in turn has a depressing effect on the central business district, which suffers further declines. Decentralization thus tends to become cumulative. One can imagine the chaos confronting cities if this vicious circle of declining incomes and values, mounting costs of government, and the flight of population and industry becomes general.

Regional decentralization must also be considered when the relative trends in different areas are analyzed. There are many indications that this is a factor in the relatively poor showing made in the 1940 census by cities in the Northern industrial areas. The New York State Planning Council concludes on the basis of a recent survey of manufacturing that "New York, in common with other states in the northeastern part of the country, has been growing relatively less important as a manufacturing center for many years. Industrial expansion has centered in the more newly developed sections: the South, the Pacific Coast, and the Middle West, especially in Michigan."⁸

Regional changes in industry are being brought about in several ways. Large corporations, for example, are locating their new plants where lower taxes, cheap labor, and accessibility to raw materials and markets enable them to reduce the costs of production and marketing. The huge defense industry is being decentralized as much as possible for strategic reasons. Whole industries, as the boot and shoe and the textile industries, have gradually migrated, leaving many ghost towns and stagnant cities in New England. Power projects—such as the T.V.A., Grand Coulee, Boulder Dam, and the St. Lawrence waterway—will have a significant bearing on regional trends in the future.

Industries will eventually locate where cheap power is abundant, other things being equal. The energy derived from oil, gas, and water-power has gradually increased since 1900, until it now exceeds the energy derived from coal. The use of hydro-electric energy, which is expanding rapidly, is most highly concentrated in the South Atlantic

⁸ *Annual Report*, 1941, p. 17.

and Pacific States. South of the Mason-Dixon line there is a remarkable concentration of resources—water power, oil, gas, coal, other useful minerals, raw materials, agricultural products, and cheap labor. The more complete industrialization of this region is under way. The same is true of the Southwest and the Pacific States. It is only reasonable to assume that these regions will utilize their own surplus labor as their industries develop, and that they will probably attract considerable population from other areas. This obviously is the situation in the Pacific States and in the Southwest. The older industrial centers of the North and East may thus not only see an end of the migration of Southern labor into Northern industries, but many of them may suffer further declines as their own capital and labor migrate to new regions being more fully industrialized.

The changes I have described must not be viewed as temporary movements controlled by fluctuations in the business cycle. They may have been intensified by the depression, but they were not set into motion by the depression, nor will they automatically cease now that the depression is over. These changes in the growth of metropolitan communities are manifestations of more basic population trends and of technological changes which are revolutionizing the whole urban economy and redistributing population over much wider areas. New means of transportation and communication and new forms of power have made population and industry more mobile and have made the concentration of population in great metropolises less essential and, relatively, less desirable.

The transition from a rapidly expanding urban economy to a stationary or declining one will present many problems of interest to sociologists. The prospect of breaking up the compact metropolis and letting it spread over a wide area without plan or forethought is not pleasing. The unregulated, speculative subdividing of land outside city limits without regard for the future needs of the community or the character of its development is already fixing a pattern of incompatible, conglomerate land uses which will be difficult to change. The haphazard development along the highways of cheap homes, small shops, junk yards, pop stands, billboards, wayside markets, road houses, dives, drive-ins, service stations, and tourist courts gives the main approaches to the metropolis a hideous aspect. The vicious and unsocial elements move out of the city to escape regulation and con-

trol, as well as do families seeking better conditions. As people begin to crowd upon each other in the outlying metropolitan areas, problems of public welfare are sure to arise. Unless the necessary public services and controls are set up, people who have fled from the city to escape its evils may find themselves in a civic no-man's land with conditions as intolerable as those they sought to escape.

CULTURAL CHANGE AND THE COUNTRY WEEKLY¹

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The article describes some adaptations made by the small town newspaper in Washington to the social and cultural changes occurring in the rural environment. Among these adjustments are: a stability in numbers has been reached, although at the expense of some loss of per capita circulation strength; a reduction in the number of two-newspaper towns; an increase in the size of the newspaper page; a shift from Saturday to Thursday as the second most important day of publication; a decreased interest in political parties and policies; a concentration on local news, particularly of persons and organizations. These trends suggest certain observations on the process of change and adaptation in social institutions, which by nature are slow to change: (1) adjustment to change is forced upon an institution by the inroads of competing agencies; (2) the stimulus to change comes from without, not from within the institution; and (3) changes in any one of the four elements of any institution—(a) rank and file membership, (b) leadership, (c) physical structure and equipment, and (d) pattern of attitudes lending sanction to the operation of the institution—will evoke changes and adaptations in the structure and functions of the institution.

¹Abstract of a paper read before the Northern Division of the Pacific Sociological Society. Published in *Rural Sociology*, VI (1941), 332-38.

THE CHANGING CASTE POSITION OF THE NEGRO IN THE NORTHWEST¹

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Thesis: Race relations in a newly opened territory assume the pattern of the area from which the participants came. As the frontier develops, lower-caste individuals may gain a social position equal to and exceeding that of some member of the upper-caste group. As the frontier disappears the former partially horizontal caste lines reappear.

Race relations in a recently developed territory are sometimes explained in terms of a race-relations cycle,² which implies that groups pass successively through cooperation, competition, and conflict to accommodation and eventual assimilation. The Negro in the Pacific Northwest, however, appears to have been first accorded the low-caste position which he had occupied during the period of slavery. As the new territory developed, he often rose to a position of recognition and acceptance. By the pre-World War period, he began to lose his higher position, and caste lines began to be more clearly drawn.

The first Negro known to have reached the Pacific Northwest was Marcus Lopez, a servant of Captain Robert Gray, who arrived in 1788 and met his death the same year at the hands of the Indians on the Columbia River. Other early Negro arrivals in this area include York, the body servant of Captain Clark, and Pompey, the cook of the Lewis and Clark expedition. The census of 1850 shows that there were 207 Negroes in the Oregon Territory. Although listed as free, many of them, according to Lockley, were still slaves.³

The low-caste position of the Negro was clearly defined as early as 1844, when the law which forbade persons to be held in bondage was changed so as to exclude slaves, free Negroes, and mulattoes from the state.⁴

¹Read before the Northern Division of the Pacific Sociological Society.

²Robert Park, "Our Racial Frontiers on the Pacific," *Survey Graphic*, XIV (1926), 192.

³Fred Lockley, "Documentary Records of Slavery in Oregon," *Quarterly of the Oregon Historical Society*, XVII (1916), 110-11.

⁴The Oregon Slave Law of 1844 reads: "That if any such free Negro or mulatto shall fail to quit and leave the state as required by the act to which this is amendatory, he or she may be arrested upon a warrant issued by some justice of peace, and if guilty upon trial before such justice, the said justice

By an eight-to-one vote, the people of Oregon in 1857 passed a constitutional provision that "no free Negro or Mulatto not residing in the state at the adoption of this constitution shall come, reside, or be within this state, or hold real estate or make any contract or maintain any suit therein."

In the Territory of Washington, Negroes held a similar legal status. George Bush, leader of the first party of Americans to reach Puget Sound (1845), was unable, because of his race, to hold legal title to the land he developed. George Washington, a mulatto co-captain of a wagon train which reached southwest Washington in 1853, could not buy or own land, so that his partner, Mr. Cohran, owned it in his name.

Ezra Meeker in a manuscript on George Bush cites the Negro's low-caste status of the early days: "George Bush was an outlaw but not a criminal; he was a true American and yet was without a country; he owed allegiance to the flag and yet the flag would not own him; he was held firmly to obey the law, and yet the law would not protect him; he could not own landed property; his oath would not be taken in the court of law—in a word, an outlaw, and yet not a criminal. He had Negro blood in his veins."⁵

On Vancouver Island the Negro was granted equal legal status with the white, but an equal social position was not accorded him. The *Victoria Gazette* for August 24, 1858, carried an open letter from an American who felt insulted at the treatment he received at the more "liberal" of the two churches, where the sexton showed a Negro into the same pew occupied by him and his family. He further stated that, because of the warmth of the day, the peculiar odor was very objectionable, so that several white people left before the service was

shall issue his orders to any competent officer to execute the process directing said officer to give ten days' public notice, by at least four written or printed advertisements, he shall have power to publicly hire out such free Negro or mulatto to the lowest bidder, on a day and at the place mentioned in said notice. Such officer shall expose such free Negro or mulatto to public hiring; and the person who will obligate himself to remove such free Negro or mulatto from the county for the shortest term of service, shall enter into a bond with good and sufficient security to Oregon, in a penalty of at least one thousand dollars, binding himself to remove said Negro or mulatto from the country within six months after such service expires, which bond shall be filed in the clerk's office in the proper county; and upon failure to perform the conditions of said bond, the prosecuting attorney for Oregon shall commence a suit, upon a certified copy of such bond, in the circuit court against such a delinquent and his sureties."

⁵ Ezra Meeker, *George Bush* (Mss., University of Washington Library), 1916, pp. 2-3.

over. Colored applicants for positions in the Victoria Fire Department were rejected.

Ten years later Mufflin Gibbs, an American Negro, was elected to the Common Council of the City of Victoria. He was also selected as delegate to the Convention of 1868 at Fort Yale, which decided the question of affiliation of British Columbia with the Dominion of Canada.⁶

As the frontier developed in Washington, the Negro began to hold a higher social position. The first Washington Legislature by a unanimous vote asked Congress to grant to George Bush's heirs the title to the land on which he had settled.

Owen Bush was elected to the state legislature of 1889-90 from Thurston County. He also represented the state at the world fairs in Philadelphia, Chicago, and St. Louis. At the Centennial Fair of 1876, his wheat took the world prize.

Another Negro who played an important role during this period was William Grose, who was persuaded by Governor Stevens to leave Victoria and engage in the hotel business in Seattle. His "Our Home" Hotel soon became the headquarters for the town's important visitors and for the miners and loggers hibernating for the winter. For his patrons, he was not only hotel man, but commission merchant, loggers' supply man, real estate speculator, and even quasi-banker, for it was to him the men entrusted their summer's earnings for safe keeping and for living accommodations until time to go back to the woods again. His son was city herder, policeman, and later a member of the personnel in the Government Assay Office.

The George Washington mentioned earlier in this paper acquired a new caste position and was honored by his white neighbors as the founder of Centralia by the erection of a marble bench in his name.⁷

For fifteen years, dating from 1890, the only simon-pure political newspaper in the Northwest was edited by a Negro, H. R. Cayton, son-in-law of Hiram Revels, senator from Mississippi. His paper, the *Seattle Republican*, in a large measure influenced the building of the Republican party in this area.

⁶ For further details as to the change in the caste status of the Negro in British Columbia, see Robert O'Brien, "Victoria's Negro Colonists", *Phylon*, III (1942), 15-18.

⁷ Reported in an article by Dorothy Mae Riggs in the *Centralia Chronicle*, Sept. 12, 1941, p. 8.

The census data on the Negro in the Northwest, as analysed by Edwards⁸ method, tends to substantiate the thesis that the colored group held a relatively higher position between the Civil and World War period than at any other time. The figures, however, are inconclusive and represent a small sample.

By 1910 the status of the Negroes had reached its peak. Their locations and types of business were neither confined to a segregated area nor restricted to a stereotype of "colored people's jobs." They were engaged mainly in mining, government service, real estate, small business, and service positions. It is now generally believed that any Negro who wanted work in those days could get it quickly.

During and following the World War, the Negro lost his higher position, and the caste line began to be more sharply drawn. In contrast to the action of the first Washington legislature, which petitioned Congress to award land to a Negro family, restrictive covenants appeared, limiting land ownership in certain plots to members of the white race. The caste position was further indicated by attempts to pass anti-marriage laws at each legislative session.⁹ Although colored doctors and dentists are allowed to service white patients, they have been barred from membership in the Medical and Dental Associations. By exception, one Negro has forced his way into the Medical Association in Oregon.

Negroes are often denied service in hotels, cafes, and moving picture theatres. Though the present Washington Civil Liberties Bill states that "every person who shall deny to any person because of race, creed, or color, the full enjoyment of any accommodations, advantages, facilities, or privileges of any place of public resort, accommodation, assemblage, or amusement, shall be guilty of a misdemeanor,"¹⁰ this law seems to be seldom, if ever, enforced.

The Aeronautical Union, the recognized labor union of the largest employer in the area, excludes Negroes by requiring membership in its Grand Lodge. In the ritual for new members is the following oath: "I do solemnly swear never to submit for membership in this lodge

⁸Alba M. Edwards, "A Social-Economic Grouping of Gainful Workers of the United States," *Journal of the American Statistical Association*, XXVIII (1933), 377-387.

⁹Daniel G. Hill records without comment a similar trend in Oregon: *The Negro in Oregon* (University of Oregon Thesis, 1932), pp. 102-105.

¹⁰Remington's *Revised Statutes of the State of Washington* (12 vols., San Francisco, 1932-33 [with supplements bringing the statutes to date], Sect. 2686.

the name of anyone other than a member of the white race." Other unions in the Pacific Northwest exclude Negroes by "tacit agreement" among the members to vote down those not of upper-caste group. Caste lines have made the Negro's economic position precarious.

These facts have their correlaries in social psychological behavior of the group in the area. There is an occupational migration of many young Negroes to California and the East. Race consciousness is heightened. Some young people are attempting to "pass" as white. No longer is George Schuyler's advice about going to the casteless Pacific Northwest believed.

The change in the caste position of the Negro took place in the life span of Owen Bush. He came West with his father at the age of twelve, faced with his lower-caste position and the restrictions against land ownership. He saw restrictions removed and himself honored by friends, being accorded social acceptance, membership in the legislature, and representation of his area at the World's Fairs. At the close of the pioneer period, he recognized that the caste lines were being redrawn. In a conversation with his friend, Ezra Meeker, in 1916, Owen Bush asked that the history of his life remain unwritten. He felt that he was without ancestry, and he did not care to be known by succeeding generations. He was opposed to having the fact of his Negro heritage published.

A STUDY OF ACADEMIC FREEDOM¹

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The purpose of this study was to isolate significant factors in 126 cases involving academic freedom and tenure described in the *Bulletin* of the American Association of University Professors, 1915-35. The Association's definition of terms was used. These case data, reduced to statistical summaries, are the basis for the following conclusions.

(1) Of the cases studied, about 60 per cent occurred in state or municipal colleges, 18 per cent in private colleges, 15.8 per cent in denominational colleges. (2) Of the 107 cases where academic positions were known, 82 per cent were professors, 6 per cent associate professors, 9 per cent assistant professors, 2 per cent instructors; 12 per cent heads of departments, 9 per cent deans, 5 per cent presidents. (3) Except for the social science field, there appeared to be little correlation between subject taught and violations of academic freedom. (4) About 62 per cent had served more than five years, 35 per cent more than ten years, 16 per cent more than 15 years, 12 per cent more than 20 years. (5) In the 93 cases where governing bodies and systems of tenure were reported, 47 were of the one-year-tenure type, 46 were of the no-definite-system type, three involved the dismissal-on-three-months'-notice practice, and another 15 showed evidence of dismissal at the arbitrary decision of superiors. In 65 per cent of the above cases, pressure leading to dismissal came from persons outside the field of education, predominantly businessmen. (6) The data on manner of dismissal showed that in only 3 per cent of cases was notice in advance given. In 60 per cent of cases no hearing was granted. Eleven per cent of the dismissals were carried out contrary to previous assurances that the instructor was doing satisfactory work and would be retained. Definite, explicit reasons for dismissal were given in only 50 per cent of the cases; in the other 50 per cent, either no charges were made or those given were worthless. (7) The charges made were often not the real reasons for dismissal; camouflaging appeared in nearly half of the cases. (8) The most important contributing causes of dismissal, together with the percentage of cases involved, were as follows: incompatibility with superiors (43 per

¹ Abstract of a paper read before the Northern Division of the Pacific Sociological Society.

cent), attitudes on school administration and policy (34 per cent), objectionable religious views (34 per cent), radical social and economic views (30 per cent), pressure from alumni (15 per cent), need to save money (15 per cent), incompetence (12 per cent), lack of tact (7 per cent), reorganization of the department (5 per cent), and participation in politics (4 per cent). There appears to have been an increase from 1915 to 1935 in the number of persons dismissed on charges of holding "radical views." (9) In 81 per cent of the dismissals there was evidence of unfairness being shown to the teacher, such as failure to grant a hearing or trial, failure to state definite charges, and inadequate notice of dismissal. In seventy cases where the evidence was clear, 67 per cent of the dismissals were for reasons other than those stated by the college.

In spite of the fact that only a few case reports are published of the 50 to 100 cases considered annually by the Association's Committee A, there is evidence that the 126 cases reported in this study are fairly typical. In fact, an analysis (now in progress) of cases for the period 1935-41 shows substantially the same results as those reported herein.

DIFFERENTIAL DIVORCE RATES BY OCCUPATION AND RELIGION¹

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This study is based on 6,548 replies to a questionnaire submitted to students attending both the public and parochial secondary schools in Spokane, Washington. Replies were received from 92.5 per cent of the students in average daily attendance at these schools. It is probable that the sample is representative of all Spokane families with children old enough to be in the secondary schools. After all families with one or both parents deceased were eliminated, divorce rates per one hundred cases were studied by occupation of father and religion of marriage partners.

¹ Abstract of a paper read before the Northern Division of the Pacific Sociological Society. The full paper will appear in a forthcoming issue of *Social Forces*.

It was found that divorce rates are significantly different for various occupational classifications, tending to increase from the highest to the lowest classification. Each occupational classification from "Professional," "Proprietary," "Clerical," "Skilled," to the "Semi-skilled" shows an increase in the divorce rate. The "Unskilled" seems to be an exception to this trend, as its divorce rate is almost as low as that of the "Professional" group. Why this reversal occurs is not known.

The observation that divorce rates increase from the highest social-economic occupations to the lowest social-economic ones is not so apparent when the rates are examined by occupations within the different religious classifications. In general, however, the combined white-collar group (professional, proprietary, and clerical) shows a lower rate than the combined skilled and semi-skilled group. (These groups were combined to overcome possible fluctuations because of small numbers.) The "Mixed Religion" group—that in which the marriage partners fell into different religious classifications—and the "No Information on Religion" categories are exceptions. In these two categories a slightly higher divorce rate is found in the combined white-collar group than in the combined skilled and semi-skilled group. Here unknown factors may operate to reverse the trend, although the differences observed may be due to chance fluctuation.

Divorce rates are highest for the group reporting that their parents had "No Religion," and they decrease for the other classifications in the following order: "No Information," "Non-Catholic," and "Catholic." The divorce rate for the Catholic group is slightly more than one-third as high as that of the total group.

HEAD-HUNTING IN FORMOSA—A CULTURE PATTERN¹

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Formosa—or *Taiwan*, as it is now generally called—is a land of exceptional natural wealth. Ninety per cent of the camphor trees of the world, extensive sub-tropical forests, rich deposits of coal, gold, and petroleum, besides other resources, make this land the most favored colony of the Japanese Empire. Formosa is separated from China by the Straits of Formosa and lies just north of the Philippines. The island is oblong and covers an area of 13,908 square miles—at present a most strategic base for the armed forces of Japan.

Nearly half of the west coast is inhabited by more than 4,500,000 Chinese Formosans whose forefathers came from *Fukien*. In the central mountain districts and on the eastern coastal plain live approximately 150,000 more or less 'savage' aborigines of nine distinctly different tribes. There is a wide difference between the natives of one district and those of another in language, dress, habits, and customs. The Paiwans are supposed to have been the first tribe to land in Formosa more than two thousand years ago, and the name may have suggested "Taiwan" to the first Chinese. These aborigines of Taiwan are probably of Malayan or Polynesian stock, originally of Indonesian racial origin—their short stature, their yellowish brown skin, their straight black hair, and other physical characteristics, their language, and their customs—all show strong resemblances to the natives of the South Seas. The suggestion has also been made that these aborigines and the Japanese are both Malay tribes which fate has sent in different directions. One branch was side-tracked and left behind in Formosa, and the other, moving farther to the north, intermingled with Mongolian and Ainu peoples in Japan proper.

The Atayal, the Bunun, and the Paiwan are the three tribes which persist in head-hunting, though the Bunun and Paiwan are gradually placing less and less stress upon this savage custom. The Atayal remain the most aggressive tribe in spite of Japanese control. A number of reasons may be given for their head-hunting:

(1) Freshly severed heads of human beings must be offered up to the spirits of their savage ancestors to assure the tribe of a year of abundance.

¹Delivered before the Annual Meeting of the Pacific Sociological Society. Data for the paper were collected by the author on a field trip to Formosa.

(2) No man is qualified to join the councils as a respected adult until he has shown sufficient skill and courage to bring home at least one head of a fallen foe.

(3) The man who is a "successful" warrior stands a better chance of winning the favor of one of the most desirable damsels.

(4) A warrior's rank and influence depend upon the number of heads which he has collected.

(5) Head-hunting in itself tends to keep the individual, his family, and even his tribe free from pestilence and disease. If a native is suffering from small-pox, his nearest male relatives will start on a head-hunting expedition to drive the pest out of the village.

(6) When a savage has lost status in his group and he feels that he is in disgrace, an enemy's skull will restore him to honorable standing. Similarly, whenever a quarrel between two primitives occurs and a friendly understanding seems remote, both men, instead of "fighting it out," quietly disappear. The first warrior to return to the village with a human head is declared the winner and the dispute is settled in his favor. Again, any one who may be suspected of having broken one or more of the tribal rules may clear himself of all suspicion by bringing home a fresh human head.

Head-hunting thus enters into all phases of Atayal life. The warrior who has "a head to his credit" wears a tattoo mark or badge of honor on his chin. Sometimes young lads will gain this coveted distinction by laying their hands on the heads which their fathers have captured, or by carrying these heads in net bags over their shoulders. According to tribal law, this experience entitles the boys to wear the emblem of the successful head-hunter. The fierce-looking sword which severs the head from the body is an object of awe and reverence among all tribes. The Paiwan, particularly, hold that the spirits of their ancestors dwell in certain knives which have survived as family heir-looms. Again, among the Bunun and Paiwan, the successful head-hunter is distinguished, not by the tattooed chin as among the Atayal, but by a special cap which the women of the tribe take great pride in making for their heroes.

History of Head-Hunting. Historically, head-hunting may be traced back to the quarrels between villages and to tribal warfare. In the eyes of the savage, the stranger or the enemy has no rights which he is bound to respect. To satisfy the demands of justice, to

retaliate for a real or fancied wrong, the tribe needed tangible proof that the enemy had been severely punished. Thus the decapitated head came to be accepted as sufficient evidence, "a medical certificate," as it were, that the warrior had upheld the honor of the tribe. If two tribes became sworn enemies, the bravest and most skillful fighters of one tribe would vie with one another to capture the most heads from the ranks of their rivals. He who could decorate his hut with the most skulls received the highest awards and rose to be head man of his village or chief of his clan.

When the Chinese came to Formosa, they were looked upon as trespassers on the land which the savages had held for centuries. The Chinese left no stone unturned in their rush to take the land away from the aborigines and gradually drove the "uncivilized" tribes back into the mountains. The savages in turn bent every effort to outdo the cruelty of their mortal foes—the foreign invaders. The successful hunters of Chinese heads now received the acclaim not only of their fellow-villagers, but also of their forefathers, whose spirits could not rest in peace while the hated Chinese tyrants went unpunished. The mountain savages, moreover, had no love for the Pe-Po-hoans, the peaceful native folk who were willing to remain behind on the plains and cast their lot with the foe. The fighters took a fiendish delight in capturing heads of these aboriginal plains people as one way to wreak vengeance upon the peaceful tribes for their treason in yielding to the wiles of the oppressor.

The savage is an able hunter. He is strong to endure and fleet of foot. "He can wait long and follow far. His tread is soft, his aim sure, and into the chase he throws all the passion of his soul. When the game is human, not animal, there is added zest in the chase, and his vengeful hate suffers not his energies to flag. No sleuth-hound is truer to the scent, no tiger is stealthier of foot." Every step is carefully worked out beforehand. From a vantage point in the hills, the savage watches the going and coming of his intended victims on the plain below. When the victim is within spear-thrust, the killer suddenly leaps from behind a boulder or bush and delivers a mortal blow. In the old days the savages would creep up behind Chinese rattan and camphor workers while they were bending over their work

² George L. Mackay, *From Far Formosa* (New York: F. H. Revell Co., 1895), pp. 267-75.

in the forest and cut off their heads before they could straighten up to defend themselves. During night raids the savages would roam about in gangs, surround and set fire to Chinese dwellings, and as soon as the terror-stricken victims tried to escape, spear them, drop their heads into net bags, and carry them triumphantly to the home village of the blood-thirsty marauders, where an impromptu celebration would be held in honor of the conquering heroes. Failure to capture heads was looked upon as a disgrace, and in some tribes the disappointed head-hunting braves wandered about aimlessly for three days before they dared to return to their own village.

The head-hunter's equipment is very simple: a spear, a knife or sword, and a net-bag. The bamboo spear is long, has an iron head, and is always carried in the hand. The knife is of iron, is sharp-pointed, and is encased in a hardwood sheath open on one side. The savage carries his knife in a belt, and the belt is never left behind. The net-bag is slung across the shoulders with strings tied around the neck and is large enough to hold two or three heads. Bows and arrows are added to the outfit when occasion demands. Before the Japanese gained control, firearms which the savages obtained through barter with the Chinese were effectively used.

Japanese rule, however, is making it more and more difficult to keep weapons of any kind in the native villages. Well-trained Japanese soldiers and teacher-policemen are transforming the ancient village life. The noble warriors of the past are turning their attention to forestry, mining, and agriculture under the paternal care of the Japanese Empire. But time-honored traditions die hard, and even today in some loyal villages, a human head is necessary before certain religious rites can be regarded as sacred. One hears frequent rumors, moreover, that Japanese heads have recently fallen into the rhea-nets of the untamed aborigines. The conquest of the head-collecting primitives is still a vexed colonial problem for the Japanese, notwithstanding the fact that savage outbreaks are occurring less frequently. The mountain braves of yesterday used to display their skull-shelves with a great show of pride. Sometimes as many as one hundred trophies have been garnered by one man, the record being held by an old chief who claimed to have taken with his own hand the five hundred skulls which appeared in his collection of treasures. According to one informant, the average for an accredited brave was ten. Now, in

numerous villages, the ever-present but unwelcome Japanese teacher-policemen have forced the mountaineers to put their precious skulls out of sight.

The rules of this ferocious game forbid the taking of a head from one's own clan, tribe, or people. Men who are not of the "in-group" lose their heads more frequently than the women, as the men must work or hunt away from home, whereas the women herd together in the relative security of their own communities.

The head-hunters have suffered greatly ever since the Chinese landed in Formosa, and naturally they do not feel kindly disposed toward their new rulers—the Japanese. These aborigines classify human beings into two groups: first, the original Formosans and those people who are similar to themselves; and second, all other Asiatics, such as Chinese and Japanese.

Those who belong to the first group are "real men", whereas the others are not worthy of respect or friendship. Europeans and other whites are "real men" and are looked upon as friends. Apparently the Dutch pioneers (1624-1662) were so honest and fair in their dealings with the aborigines that the natives have never sought the heads of white men.

In the north, the Atayal head-hunters build racks of bamboo to hold their skulls. The shelves may be enlarged like our own adjustable book-cases to take care of the growing collection. In southern Formosa, the Paiwans take advantage of the nearby slate cliffs, which supply ample material for their skull-shelves. In some villages, a rack is placed on one side of the entrance on a level with the totem-like pole which runs along the front of the house just beneath the roof. The newest head is usually exhibited here for the benefit of admiring visitors. One head holds this place of honor until perchance the warrior is successful in another raid, when a fresh head supplants the first and the latter joins the decaying skulls on the long shelf behind the hut. The Japanese are now trying to demolish these skull racks as a part of their general campaign to stop head-hunting. I have in my collection two photographs of a family group in front of their native dwelling. The one picture shows distinctly a skull on the shelf beside the doorway. The other is identically the same scene with one exception: the skull has disappeared. In other words, the Japanese have confiscated copies of the first photograph to remove all re-

mindings of head-hunting days. However cruel and gruesome this savage custom may seem, the fact must not be overlooked that these people do have moral qualities which are not always found among other primitives and even among "civilized" peoples. Generally speaking, these mountain aborigines left to themselves are honest, faithful, and trustworthy. In fact, the fiercest tribe of all, the Atayal, have the highest standards in their sex relationships. When immorality does occur among the savages, it is usually due to borderland association with the Chinese or Japanese.

In general, the Formosan aborigines today are controlled largely by a tribal code which custom and tradition have firmly established. Public opinion is all powerful, and each one considers his own personal interests and the larger interests of the tribe as one and inseparable.

But the old order is passing, in spite of firm loyalty to tribal life and a morale which sustains the will to survive. The Imperial Way of the Japanese conquerors from overseas will sooner or later destroy the time-honored customs and folk standards of the Formosan aborigines.

SOCIO-ECONOMIC ASPECTS OF TIMBER DEPLETION¹

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Sociologists in a region dependent on forest products for a major portion of the economic base may well concern themselves with the cycle of change typically associated with the exploitation and depletion of that basic resource. Pertinent to an analysis of the trend of change likely to be faced by the Pacific Northwest is the settlement and development cycle through which the Northern Lake States (northern Minnesota, Wisconsin, and Michigan) have already passed.

(a) *Lake States Timber Depletion Experience.* In brief, the crucial mistake which laid the groundwork for the Northern Lake States designation as one of six chief "rural problem areas"² in the nation was the failure to realize that agriculture could not successfully follow the forest industries as agriculture did to the south. Today we know that only 10 per cent of the land area of the region is physically suited to agriculture—that competitive disadvantages of distance to markets, the scattered location of good soils, and the short growing season reduce a large proportion of the Northern Lake States farms to marginal enterprises which become submarginal with important drops in farm prices.

Associated with that fundamental mistake have been a large number of other costly blunders of settlement and development: unplanned exploitation of the forest resource with no thought for the dominant role forests must continue to play in the regional economy; the private and public encouragement of settlement of large numbers of farmers on land which could not support them (often in isolated areas where the excessive costs of essential public and private services force extensive subsidization from outside); over-development of units of government, roads, drainage districts, and other facilities in the mistaken anticipation of a dense population concentration as in

¹ Condensation of a paper read before the Northern Division of the Pacific Sociological Society. The data are from studies made as a Fellow of the Social Science Research Council and as a Research Associate of the Washington State Planning Council.

² See National Resources Committee, *Regional Planning, Part VIII—Northern Lake States* (Washington, 1939); Carter Goodrich *et al.*, *Migration and Economic Opportunity* (Philadelphia: University of Pennsylvania Press, 1936), pp. 164-200; P. G. Beck and M. C. Forster, *Six Rural Problem Areas: Relief, Resources, and Rehabilitation* (F.E.R.A., Washington, 1935).

the Southern Lake States. Misleading also in the development of the Northern Lake States was the favorable local agricultural market provided by a once-prosperous lumber industry. When the timber was gone, tens of thousands of camp and mill workers were left without employment and were forced to follow the lumber industry west, seek opportunities elsewhere, or attempt an agricultural subsistence in the cut-over; a majority of towns were left without support for a large portion of their citizens and institutions; and at the same time the chief markets for the existing agriculture of the cut-over were sharply reduced as the forest industries and their payrolls declined. In addition, at the very time when agricultural markets and forest industry jobs were declining, high-pressure land-sales campaigns were attracting to farming large numbers of forest workers and migrants from other regions, a majority of them being untrained in agriculture and having little capital and little productive cropland.

(b) *Socio-Economic Aspects of Timber Depletion in the Pacific Northwest.* In many ways the costly blunders of Lake States timber exploitation and unwise settlement and agricultural development are being duplicated in the Pacific Northwest. Sixty-eight per cent of the industrial employment of the region depends directly on the forests.³ An important portion of the market for agricultural products rests on forest-supported purchasing power. Perhaps two-thirds of the market for service and transportation industries depends directly or indirectly on forest industries. Yet the United States Forest Service reports that the Northwest forests are being used at least twice as rapidly as they are growing back, and that approximately half of the cut is wasted.⁴

In a sample area the Washington State Planning Council in 1940 found that forest reproduction in the cut-over was approximately 25 per cent of the capacity of the land under standard forest-management practices.⁵ In a random mill town, the termination of logging and of mill operations on account of the exhaustion of raw material caused an 80 per cent decline in the tax base for school and other public

³National Resources Planning Board, Region 9, *Facts Concerning Forest Resources and Forest Industries of the Pacific Northwest* (Portland, Oregon, 1940). A summary of pertinent data from the Bureau of the Census and the Forest Service.

⁴*Ibid.*

⁵Washington State Planning Council, *The Elma Survey* (Olympia, Washington, 1941).

⁶Files of Washington State Planning Council pertaining to *The Elma Survey*.

purposes, but no net decline in population. There was, however, a 50-per-cent population turnover as the technical and skilled workers migrated and their places were taken by part-time farmers and other marginal workers. Thus the community lost most of its leadership. Rather than face the facts of timber depletion, the business group blamed the labor unions for the closing of the mills, the labor union group blamed the mill owners, and unorganized groups in general looked on the closing as an unfortunate act of Fate and hoped that something would come along to give employment again, or at least that W. P. A. work would continue. In this area, two-thirds of those who had been displaced from the forest industries were unemployed or receiving public assistance (findings as of February, 1940).

For such an area of contracting economic opportunity, the adjustment possibilities may be grouped into five categories: (1) *Alternate economic bases*. Most obvious, particularly to residents, is the possibility of a new industry or other spectacular development. More reasonable possibilities include heightened efficiency in the use of available resources as through land-use planning, use of tested farm and forest management practices, development of a recreation industry, and so forth. (2) *Subsidization* through state and federal aid for roads, schools, relief, public works, and so forth. (3) *Lowered costs of essential local services*—the increase of real incomes in an area through the reduction in costs of essential services as through school and governmental consolidations, zoning against isolated settlement, cooperative buying and marketing, and so forth. (4) *Migration* to areas of greater opportunity through individual action (with or without the advice of public employment agencies), through public submarginal land purchase and resettlement enterprises, and so forth. (5) *Acceptance of a lowered plane of living*.

As elsewhere, leadership in the Pacific Northwest is sharply divided in its thinking on important matters of policy in facing the problems associated with the unplanned exploitation of the forest resource and the development and settlement of the cut-over areas. The Pacific Northwest has advantages over the Lake States in seeking alternative economic bases, such as access to ocean transportation, favorable climate and a long growing season, vast water-power resources, and important irrigation possibilities. On the other hand, the region has serious disadvantages over the Lake States in distance

from recreation-seeking centers of population. Thus far the Pacific Northwest has made only small beginnings in the conservation of resources and the planning of land-development and -settlement, as devices for protecting itself from the disastrous economic decline experienced by the Northern Lake States. And there is no new undeveloped frontier for the dispossessed from the Pacific Northwest, as there was for those who had in the Pacific Northwest an escape from the Northern Lake States thirty-five or forty years ago.

SHELTERING MIGRATORY AGRICULTURAL LABORERS IN THE PACIFIC NORTHWEST¹

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The problems of the migratory agricultural laborer have been brought into sharp focus because of the recent recognition of the seriousness of soil erosion, development of intensive specialty crops, preponderance of births over deaths in the eastern Rocky Mountain area, the spectre of farm tenancy, indiscriminate appeal for agricultural laborers by private employment agencies, and, probably most important of all, the continuing mechanization of agriculture. "Factories in the Field" are increasingly appearing in the Pacific Northwest and are consequently demanding large hordes of migratory agricultural laborers. In order to help provide some elements of a social and physical environment for these wandering workers, the Farm Security Administration established its migrant labor camp program. During 1941 twenty camps, six permanent and fourteen mobile, served thirty-four agricultural areas in the Pacific Northwest. This camp program, with its effort to restore the American way of life among the lowest income group of agricultural people, is one of several ways that the Farm Security Administration is contributing to the national war effort.

¹Abstract of a paper read before the Northern Division of the Pacific Sociological Society. Published in full in *Sociology and Social Research*, XXVI (1942), 259-64.

REPRESENTATIVES OF LEADING RELIGIOUS DENOMINATIONS IN *WHO'S WHO* AND THEIR FAMILY CHARACTERISTICS¹

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Willamette University

The main objective of this study of people listed in Volume XX of *Who's Who in America* (1938-39) was to learn the number of children per family among leaders of the various religious denominations.² A second general purpose was to ascertain what religious group or groups are providing for leadership in so far as this can be determined by inclusion in *Who's Who in America*.

The Unitarians have the highest representation in *Who's Who*, 51 times their quota. The Friends, with a quota of 12.5, rank second; and the Episcopalians, with a quota of 11.4, rank third.

All the Mormons and the Christian Scientists listed in *Who's Who* are married. The average number of children in these Mormon families is 4.3; in the Christian Scientist families, 1.2. Only 11.6 per cent of the Mormons are childless, but 39.1 per cent of the Christian Scientists. The theological beliefs of the Mormons as to the importance of having children probably accounts for their high rating; it is possible that, among them, we find a true rate of non-fertility. The Friends have a low rate of childlessness. The others do not vary greatly from the average of 18.5 per cent. An average of 2.1 children per family among the Catholics seems low; there are two possible explanations: city life and birth control. People listed in *Who's Who* are chiefly from urban areas.

The most significant figure on the death of offspring is the very low percentage of deaths among Jewish children.

Another interesting comparison is the percentage of those listed who are women. Of the Christian Scientists listed, 10 per cent are women; of the Friends, 6.5 per cent; of the Unitarians, 6.3 per cent; and of the Episcopalians, 5.9 per cent.

¹ Summary of a progress report presented before the Northern Division of the Pacific Sociological Society.

² There are so few cases in which both husbands and wives are listed in *Who's Who* that no serious error is incurred in assuming that each person in *Who's Who* represents a different family.

Representatives of Leading Religious Denominations in Vol. XX of *Who's Who* (1938-39) and Their Family Characteristics

Denomination	Total Church Membership	No. Listed in <i>Who's Who</i>	Proportion of Quota*	Per Cent Women	Per Cent Unmarried Persons		Per Cent Married Persons		Children Per Person†		Per Cent Children Deceased
					Persons	Persons	Childless	Persons	Person†	Person†	
Mormon	578,267	60	0.4	3.3	0.0	0.0	11.6	11.6	4.3	4.3	7.4
Lutheran	3,238,909	421	0.5	1.4	5.2	5.2	17.8	17.8	2.5	2.5	6.3
Baptist	9,639,723	1,493	0.6	1.8	2.3	2.3	17.6	17.6	2.3	2.3	6.0
Methodist	8,112,822	2,448	1.2	1.8	3.5	3.5	18.2	18.2	2.2	2.2	6.1
Catholic‡	15,492,016	801	0.2	3.1	10.4	10.4	21.4	21.4	2.1	2.1	4.5
Reformed	156,790	195	5.1	4.1	4.1	4.1	17.9	17.9	2.1	2.1	7.4
Presbyterian	2,526,311	3,205	5.2	3.2	5.0	5.0	17.1	17.1	2.1	2.1	5.1
Disciples	1,484,337	427	1.2	1.8	1.8	1.8	16.8	16.8	2.1	2.1	4.9
Friends	71,190	216	12.5	6.5	7.4	7.4	13.4	13.4	2.1	2.1	4.2
Congregational	1,003,079	1,724	7.1	3.9	2.8	2.8	14.9	14.9	2.0	2.0	5.2
Unitarian	58,361	723	50.9	6.3	6.9	6.9	21.1	21.1	2.0	2.0	5.3
Jews	2,930,332	308	0.4	4.0	7.4	7.4	17.8	17.8	1.9	1.9	1.4
Episcopalian	1,361,167	3,773	11.4	5.9	10.2	10.2	21.0	21.0	1.8	1.8	3.8
Universalist	51,322	96	7.7	1.0	5.0	5.0	25.0	25.0	1.6	1.6	4.0
Christian Science	202,098	102	2.1	10.0	0.0	0.0	39.1	39.1	1.2	1.2	5.6
Totals	46,906,724	15,992		3.6	5.5	5.5	18.5	18.5	2.1	2.1	5.1

*The quota was derived as follows: The total estimated population of the United States in 1938 was 130,000,000; the total number of names in *Who's Who* was 31,545. Therefore, one person in every 4,121 was in *Who's Who*. On that basis the 58,361 Unitarians would be entitled to 14.4 names in *Who's Who*. Actually they have 723, or 51 times their quota. The normal quota of any group would give an index of 1. A number less than this indicated that a group has not contributed its quota. For example, the Mormons with a ratio of 0.4 contribute less than half their quota.

†Includes both those living and those deceased.

‡Priests and nuns are deducted from *Who's Who* data.

MINUTES OF THE BUSINESS SESSION OF THE
THIRTEENTH ANNUAL MEETING OF THE
PACIFIC SOCIOLOGICAL SOCIETY

Held at the University of Southern California, Los Angeles, California
December 29 and 30, 1941

The business meeting convened at 11:00 A.M., December 30, President Jesse F. Steiner presiding.

The report of the Secretary-Treasurer was read and on motion approved.

In the absence of Carl E. Dent, Editor, Fred R. Yoder reported for the Editorial Committee, indicating that the State College of Washington had offered to continue the publishing contract if it was agreeable to the Society. On motion it was voted to continue the present plan of publishing the *Proceedings* for the current year. The Editorial Committee recommended that the price of single issues of the *Proceedings* be \$1, the price it had been charging for the volume in the absence of official action.

President Steiner read the following telegram from Norman S. Hayner, who represented the Society at the annual meeting of the American Sociological Society:

New York, N.Y., Dec. 28, 1941, 6:37 p.m.

Society refused two-dollar refund. Southern region requested similar refund.

Norman S. Hayner

President Steiner also read the following telegrams he had received from the national Society:

New York, N.Y., Dec. 28, 1941, 7:17 p.m.

The American Sociological Society meeting in New York sends its very cordial greetings to the Pacific Sociological Society. In this time of grave national emergency sociologists of all regions are eager to unite in service to their country. We know you share the determination to let nothing impede this effort.

Stuart A. Queen

New York, N.Y., Dec. 29, 1941, 12:37 p.m.

New Constitution of American Sociological Society provides for representation of affiliated regional societies on Executive Committee effective as soon as representatives are selected.

Stuart A. Queen

On motion it was voted to begin the three-year term of Paul H. Landis as Pacific Sociological Society representative to the Executive Committee of the American Sociological Society as of December, 1941, rather than as of May, when the mail ballot was taken, this to make the term conform to the terms of other members of the Executive Committee of the national Society.

On motion it was voted that papers presented at divisional meetings be given the same consideration for publication in the *Proceedings of the Pacific Sociological Society* as those presented at the annual meeting.

It was also voted that all papers to be considered for publication be submitted prior to February 1.

The question of whether the Editor of the *Proceedings* should be elected or appointed by the President was discussed. It was the consensus of the group that the precedent of having the President appoint the Editor and Editorial Committee should be continued.

Martin H. Neumeyer for the Nominating Committee—consisting of Doctor Neumeyer, Chairman, George M. Day, and Charles N. Reynolds—presented the following slate of officers:

President:	Elon H. Moore
Vice-Presidents:	
Northern:	Fred R. Yoder
Central:	Joel V. Berreman
Southern:	Ray E. Baber
Secretary-Treasurer:	Calvin Schmid
Advisory Council:	Glen E. Carlson

On motion the nominations were closed, and the Secretary was instructed to cast a unanimous ballot for their election.

The Nominating Committee recommended that the retiring President hereafter be added to the Advisory Council for one year, this to be made a by-law of the constitution. On motion this recommendation was adopted.

It was moved that the place of the 1942 meeting be Willamette University, Salem, Oregon. The final decision as to time of meeting was left to the Chairman of the Program Committee. It was reported that the Pacific Coast Economics Association would be meeting on December 29 and 30.

On motion it was voted that a committee be appointed to revise the constitution of the Pacific Sociological Society.

Doctor Day presented the report for the Resolutions Committee commending the officers of the Society for their faithful service during the year and the Secretary-Treasurer for effective service over a period of four years; expressing appreciation to the Program Chairman for the arrangement of an interesting and successful program, to Doctor Neumeyer and the Sociology Staff of the University of Southern California for the reception they sponsored in the Neumeyer home, and to the University of Southern California, host of the Pacific Sociological Society.

The meeting adjourned at 12:15 p.m.

PAUL H. LANDIS, Secretary

REPORT OF THE SECRETARY-TREASURER

The most important decision made during the year was to affiliate with the American Sociological Society. At the request of the Secretary of the American Sociological Society, your secretary presented the problem of joining the national Society to the Advisory Council. Their vote favored circularizing the membership on the question of affiliation and election by mail ballot of one of their three nominees as representative of the Pacific Sociological Society to the Executive Committee of the national Society. The membership was polled on the two issues, and the final ballots received May 20th. With the approval of President Steiner, the ballots were relayed by the secretary to Professor Robert H. Dann, of Oregon State College, for tallying. Professor Dann reported the following vote on affiliation with the national Society: yes, 33; no, 0; not voting on this question, 3; total ballots, 36. He reported that Paul H. Landis was elected Pacific Sociological Society representative to the Executive Committee of the American Sociological Society.

The decision of the election was reported to the American Sociological Society with the result that the Pacific Sociological Society was granted charter No. 9 of the American Sociological Society. Consequently, the Pacific Sociological Society is given its place along with

the other regional organizations in the constitution of the American Sociological Society, which is to be presented for final adoption at the December, 1941, meeting of the national Society. (A copy of the proposed constitution appeared in the *American Sociological Review* for October, 1941.)

In early December the Advisory Council was circularized to obtain their suggestions for special requests to the American Sociological Society. On the basis of these responses, the following letter was sent to the national Society:

Doctor Harold A. Phelps, Secretary
American Sociological Society

Dear Doctor Phelps:

I submit for consideration at the business session of the American Sociological Society the following requests of the Advisory Council of the Pacific Sociological Society:

- (1) That the practice of refunding \$2.00 on dues of American Sociological members who are active members of the Pacific Sociological Society be continued. This refund is necessary since the Pacific Sociological Society must finance its own program and the publication of its own *Proceedings*.
- (2) That the American Sociological Society always hold its sessions in the Middle West, except that once every ten years the meeting be held in the Far West. Though the present officers of the Pacific Sociological Society cannot determine the action of later officers, the present officers feel certain that the Pacific Sociological Society would waive its annual meeting or hold it at a time which would not compete with the national Society on the years when the American Sociological Society met in the Far West.
- (3) That the new constitution as published in the *American Sociological Review* be adopted.

Sincerely yours,

PAUL H. LANDIS, Secretary-Treasurer

Because your secretary was unable to attend the national meeting to carry out his responsibility as elected representative of the Pacific Sociological Society to the Executive Committee of the American Sociological Society, the president appointed Doctor Norman S. Hayner to represent the Society at the meeting of the American Sociological Society now convening in New York City.

From a business standpoint the society fell below the level of the preceding year. Individual memberships decreased by five and institutional memberships by four. The trend over a period of five years is summarized below:

Year	Membership		Total Collections from These Sources	
	Institutional	Individual	Institutional	Individual
1937	-	86		\$ 86.00*
1938	2	93	\$ 10.00	123.00
1939	7	75	40.00	112.50
1940	8	81	45.00	121.50
1941	4	75	20.00	112.50

* Individual dues were \$1.00 as compared to \$1.50 for subsequent years.

The distribution of both individual and institutional memberships by regions¹ over a period of three years may be of some interest. The tabulation follows:

Division	1939		1940		1941	
	Institutional	Individual	Institutional	Individual	Institutional	Individual
Northern	3	29	4	31	1	33
Central	2	20	2	19	1	14
Southern	2	26	2	31	2	28
Total	7	75	8	81	4	75

It will be observed that the loss of institutional membership has cut our budget rather heavily. Collections during the preceding year were \$45 as compared to \$20 this year. This is a matter which is entirely in the hands of heads of Departments of Sociology in the Pacific area. The secretary-treasurer has made it a practice to submit a bill for the proper amount to the Department of Sociology during the month of January. If the department head clears this bill with the institution, we get the dues.

Our refund from the national Society was also lower. During the year 1940 we were given a refund of \$2 for each member who resided in the area of the Pacific Sociological Society. This refund totaled \$110. During the current year we were allowed a refund for only those who were members of both the Pacific and American Sociological Societies. The refund totaled only \$76.

Carrying out the request of the 1940 business session, President Steiner appointed the following Editorial Committee: Carl E. Dent, Editor; Calvin F. Schmid and Henry Meyer, Assistant Editors. Edi-

¹ The Northern region embraces Oregon, Washington, British Columbia, Idaho, and Montana; the Central, Northern California (Fresno and north), Nevada, Utah, and Hawaii; and the Southern, Southern California (south of Fresno), Arizona, New Mexico (west of Rockies), and Mexico.

tor Dent reports that there are in stock approximately 32 copies of the 1939 *Proceedings* and approximately 44 copies of the 1940 *Proceedings*. There were only two sales of the *Proceedings* during the current year, one of these to a library at half price.

The treasurer's report follows.

Report of Fiscal Year
December 1, 1940—December 1, 1941

Receipts

Cash on hand, December 1, 1940	\$ 163.16	
Individual memberships		
75 for 1941		
3 for 1940 @ \$1.50	\$ 117.00	
Institutional memberships		
4 @ \$5.00	20.00	
Subscriptions to <i>Sociology and Social Research</i>		
11 @ \$2.00	22.00	
Copies of <i>Proceedings</i>		
1 @ \$1.00 and 1 @ 0.50	1.50	
Refund from American Sociological Society		
38 @ \$2.00	76.00	
Receipts during year	236.50	\$ 236.50*
<i>Total Receipts</i> as of December 1, 1941		\$ 399.66

Disbursements

<i>Sociology and Social Research</i> —subscriptions	\$22.00	
Telegraph charges	2.15	
Postage and supplies (including letterheads)	27.43	
Publication of <i>Proceedings</i> to <i>Research Studies of</i> <i>State College of Washington</i>	108.82	
Special plates for <i>Proceedings</i>	24.92	
Expense of programs—printing, etc.	14.36	
Stenographic expense	23.25	
<i>Total Disbursement</i> as of December 1, 1941	\$ 222.93	\$ 222.93
<i>Balance</i> as of December, 1, 1941		\$ 176.73

* Net receipts during the year were \$214.50 exclusive of subscriptions to *Sociology and Social Research*.

Respectfully submitted,
PAUL H. LANDIS, Secretary-Treasurer

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RESEARCH STUDIES of the STATE COLLEGE OF WASHINGTON

Volume X

June, 1942

Number 2

A BOTANICAL SURVEY OF THE UPPER COLUMBIA RIVER REGION, WASHINGTON¹

H. THOMAS ROGERS

Sometime Fellow in Botany

Because the waters forming the artificial lake behind the Grand Coulee Dam of the Columbia River by the summer of 1941 would have destroyed the vegetation of the upper river valley below the 1290-foot level, the Department of Botany of the State College of Washington, aided by the Northwest Scientific Association, undertook to obtain as complete collections and records as possible of the plants growing there. This area, now inundated, extends from the Canadian boundary down the valley of the Columbia River to the Grand Coulee Dam, and includes as well the lower valleys of the Kettle, Spokane, and San Poil rivers. The upper Grand Coulee, extending from the Grand Coulee Dam to the Dry Falls, was also included in the survey, since most of this portion of the coulee will soon be converted into a storage reservoir for irrigation purposes.

Historically this region is of much botanical interest, for a number of pioneer collectors visited the area not long after Lewis and Clark passed through the state somewhat farther south. The earliest of these biological explorers was David Douglas, a Scotch naturalist sent out by the Horticultural Society of London. In 1826, he traveled up the

¹The writer is indebted to the Northwest Scientific Association and to the State College of Washington for financial support in carrying out this project; to Dr. Marion Ownbey for guidance and useful suggestions; and to the following specialists for verifications and determinations in the groups indicated: Rimo Bacigalupi, *Lithophragma*, *Saxifraga*, *Suksdorfia*; Milo S. Baker, *Viola*; Carlton R. Ball, *Salix*; Fred A. Barkley, *Toxicodendron*; Lyman Benson, *Ranunculus*; S. F. Blake, *Compositae*; Fred K. Butters, *Heuchera*; Robert T. Clausen, *Frasera*, *Sedum*; Lincoln Constance, *Hydrophyllaceae*, *Umbelliferae*; George J. Goodman, *Polygonaceae*; F. J. Hermann, *Cyperaceae*, *Juncaceae*; I. M. Johnston, *Boraginaceae*; David D. Keck, *Madia*, *Orthocarpus*, *Penstemon*, *Potentilla*; Rogers McVaugh, *Campanula*, *Fragaria*, *Geum*, *Plectritis*, *Rosa*, *Rubus*, *Spiraea*; Bassett Maguire, *Caryophyllaceae*; Herbert L. Mason, *Dodecatheon*, *Polemoniaceae*; Mildred E. Mathias, *Umbelliferae*; P. A. Munz, *Onagraceae*; Marion Ownbey, *Castilleja*, *Liliaceae*; Francis W. Pennell, *Scrophulariaceae*; Alfred Rehder, woody plants; Reed C. Rollins, *Cruciferae*; Charles Piper Smith, *Lupinus*; Jason R. Swallen, *Gramineae*; Edgar T. Wherry, *Phlox*; K. M. Wiegand, *Amelanchier*.

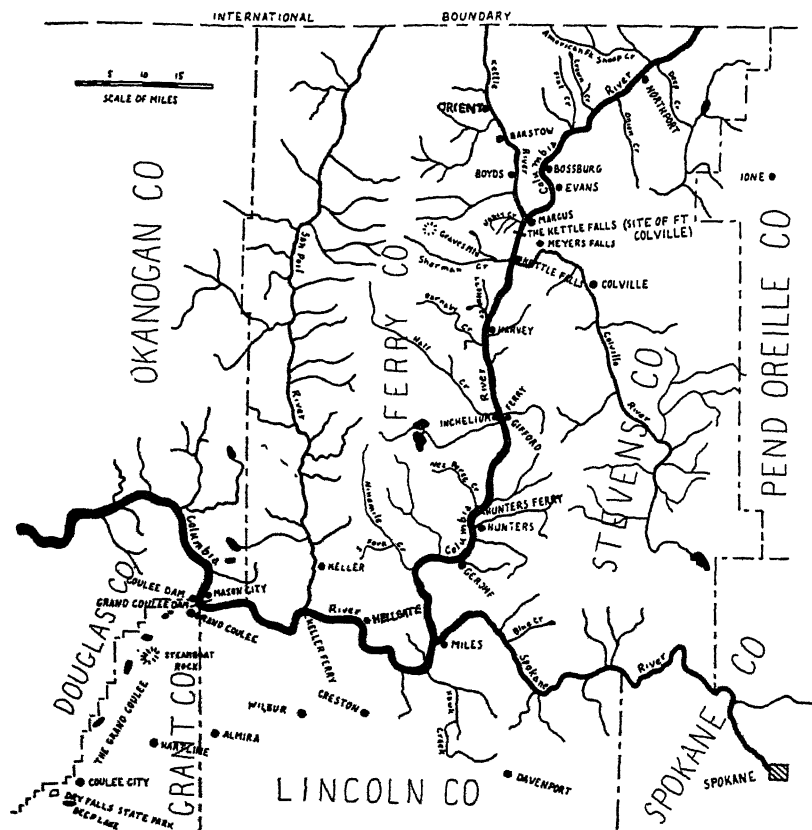


Fig. 1. Map of the upper Columbia River region in Washington.

Columbia River, collecting as he went, and reached the mouth of the Spokane River April 11. Eight days later, he left for the Kettle Falls, farther up the Columbia. On June 5, he began his return trip overland to Walla Walla, about two hundred miles to the south. Later in the same summer, he again visited the area, starting from the site of Lewiston, Idaho, on July 31, and reaching the Kettle Falls on August 5. Here he remained until the 18th of the month, when he started for Fort Okanogan, near the confluence of the Okanogan River with the Columbia. From there he journeyed on down the Columbia. His collecting yielded many previously unknown species, including the now well-known ponderosa pine, *Pinus ponderosa*, which he secured on the Spokane River near the spot where the author has collected it.

In 1841, two collectors, Dr. Charles Pickering and W. D. Brackenridge, traveled up the Columbia River with the Wilkes Expedition. They crossed the Grand Coulee and followed along the south and east side of the river as far as Fort Colville, which they reached on June 15. From there they journeyed south to the Mission at Lapwai, Idaho.

In 1844, Charles A. Geyer, a German botanist, made an excursion north to Fort Colville, collecting extensively. Several more recent collectors have made brief visits to various parts of the region, particularly in the Kettle Falls area, but until the initiation of the present project, no recent intensive explorations of the area as a whole had been undertaken.

The collecting of the present survey was begun in the spring of 1939 by Carl W. Sharsmith, and continued through the summer of that year by Miss Luana Boner and Miss Virginia Weldert. In the spring of 1940, extensive collecting was carried on during the early part of April by Marion Ownbey, Fred G. Meyer, Carl W. Boothroyd, and the writer, and from mid-April to mid-June by the writer, assisted for two weeks by Philip Plotts.

II. Topography and Geology of the Area

The Columbia River enters the state of Washington from Canada about twenty-seven miles west of the state's eastern boundary. It winds between forested mountains of 4000 to 5000 feet altitude, coursing in a southerly and somewhat westerly direction until joined by the Spokane River. Then it turns abruptly westward, maintaining this general direction as far as the Grand Coulee Dam. The mountains along the upper valley from the Canadian border south nearly to Gerome are composed largely of sedimentary rocks of Palaeozoic age. A striking feature of these mountains is the imposing cliffs of gray-white limestone, prevalent along the upper river valley from Northport to Bossburg. Along the west and north side of the river, from the border to the dam, much of the mountain bulk consists of granite rock intruded into the area as batholiths, probably during the Mesozoic era.

Near Gerome a conspicuously different type of rock enters the picture, namely the Columbia River basalt. Its sheer, dark brown cliffs, talus-strewn at their bases, are the result of the weathering of the vast Columbia Basin lava sheets which repeatedly overflowed most of central and eastern Washington in Miocene times. This basalt, now mostly buried by soil, crops out abundantly along the south bank of the Colum-

bia from the Spokane River mouth to the Grand Coulee. The most picturesque examples of this type of rock are found in the Grand Coulee, which was formed during Pleistocene times by the action of the Columbia as it was temporarily diverted from its present channel by a lobe of the glacial sheet. In the Upper Grand Coulee vertical, lichen-covered rock walls 800 to 900 feet high shut in a fairly level floor one to three miles wide and about twenty-five miles long. Near Coulee City the walls disappear, only to reappear again at a lower level after the coulee drops a sheer 400 feet over the Dry Falls into the Lower Grand Coulee, which is occupied by a series of beautiful little lakes.

The ice sheet, while diverting the Columbia into the Grand Coulee, deposited glacial drift of a sandy and gravelly nature in the Kettle River valley, the San Poil River valley, and the valley of the Columbia nearly down to the mouth of the Spokane River. Below this point the soils of the valley and also of the Grand Coulee have been laid down by water action and consist mostly of sands, gravels, and, in the Upper Grand Coulee, silt. The shores of the Columbia River from the mouth of the Spokane River northward consist principally of water-worn stones mixed with sand and gravel.

III. Vegetation of the Area

The vegetation of the area is as diverse as the geology, ranging from sagebrush in the Grand Coulee to cedar forest at the Canadian boundary, from species of sun-scorched talus slopes to moisture-loving marsh and aquatic plants. The vegetation is best considered as composed of two main types, grassland and forest, in various combinations and modifications. The grassland type dominates the Grand Coulee and the valley of the Columbia about as far up the river as the mouth of the Spokane. From this point on, forest species begin to appear in significant numbers, mingling with grassland species and eventually, far up the river, replacing them completely.

The grassland, though often modified from its climax condition, is characterized by a number of herbaceous plants, among which are *Poa secunda* (Sandberg bluegrass), *Agropyron spp.* (wheatgrass), *Festuca idahoensis* (bluebunch fescue), *Stipa comata* (needle-and-thread), *Balsamorhiza spp.* (balsamroot), *Astragalus spp.* (milk vetch), *Erigeron spp.* (fleabane), *Phlox spp.*, *Lupinus spp.* (lupine), *Lomatium spp.*, *Dodecatheon spp.* (bird-bills), and *Gaillardia aristata* (brown-eyed

susan). In the Grand Coulee the general vegetational aspect is supplied by *Artemisia tridentata* (sagebrush) along with the following somewhat less common shrubby species: *Sarcobatus vermiculatus* (greasewood), *Grayia spinosa* (hop sage), *Chrysothamnus* spp. (rabbit brush), and *Tetradymia canescens*. Between the clumps of these species or in contiguous areas, one commonly finds annual weeds such as *Bromus tectorum* (cheat grass), *Lepidium perfoliatum* (pepper grass), and, less often, *Myosurus aristatus*, *Lepidium dictyotum*, *Descurainia pinnata*, and other short-lived annuals. The original grassy nature of much of the coulee is suggested by the occurrence of *Poa secunda*, *Erigeron* spp., *Astragalus* spp., *Lupinus* spp., and *Dodecatheon conjugens*, typical grassland species. Supporting this idea is the statement of Wilkes (1845) describing the Grand Coulee as having "plenty of good grass" when his exploring party visited it in 1841.

An extremely hot, dry habitat is offered by the basalt talus slopes which extend the length of the coulee along the bases of its confining cliffs. The plant which apparently can exist most successfully in such a habitat is the shrub *Philadelphus lewisii* (syringa), scattered individuals of which seem to be able to send their roots deep through the loose talus to moisture. *Ribes cereum* (squaw currant), *Salvia carnea* (purple sage), *Amelanchier* spp. (service berry), *Prunus virginiana* var. *melanocarpa* (chokecherry), and *Eriogonum* spp. are nearly as able to withstand drought conditions, and generally occur either along the base of the talus or at its upper limit, where soil and moisture conditions are somewhat more favorable. *Agropyron* sp. is sometimes found at the top of the talus, having survived apparently by being out of reach of grazing animals. Somewhat more moist spots along the foot of the talus afford favorable conditions for shrubs such as *Amelanchier* spp., *Prunus virginiana* var. *melanocarpa*, *Rosa* spp., *Salix* spp. (willows), *Ribes cereum*, and *Crataegus* sp. (hawthorn), and for herbs such as *Geranium viscosissimum*, *Galium* sp. and *Penstemon pruinosus*. In marshy spots along the base of the talus *Iris missouriensis* frequently occurs.

Along the ponds and on the adjacent alkali flats of the coulee, one finds a number of salt-tolerant species, *Sarcobatus vermiculatus* being probably the most common. Others species found growing along the margins of the ponds are *Distichlis stricta* (desert salt-grass), *Puccinellia nuttalliana*, *Scirpus nevadensis*, *Juncus balticus* and *Ranunculus*

cymbalaria. Farther back from the ponds *Elymus condensatus* (giant wild-rye) grows shoulder-high.

Along the Columbia River also, the grassland is largely disturbed—cheat grass, sagebrush, and other weedy plants prevailing in many places. However, the occurrence of species such as *Poa secunda*, *Agropyron spp.*, *Balsamorhiza spp.*, *Lupinus spp.*, *Erigeron spp.*, and *Lomatium spp.* again suggests a grassland climax. A conspicuous shrub in the drier situations is *Purshia tridentata* (antelope brush), a straggling shrub whose bright yellow, spicily fragrant flowers add interest to otherwise drab slopes. This species appears intermittently along the Columbia to a few miles above the mouth of the Spokane. *Chrysothamnus spp.* also range through this area, with somewhat spotty distribution, to the Spokane mouth. Ravines cutting through the grassland offer foothold for a number of shrubs, most important among which are *Amelanchier spp.*, *Prunus virginiana* var. *melanocarpa*, *Philadelphus lewisii*, *Ribes cereum*, *Rosa spp.*, *Physocarpus malvaceus* (ninebark), *Symphoricarpos sp.* (snowberry), *Holodiscus discolor* (mountain spray), and *Crataegus douglasii*. In moister ravines *Pinus ponderosa* and *Pseudotsuga taxifolia* (Douglas fir) are to be found. Along the few creeks which do not dry up early in the summer, *Betula fontinalis* (river birch), *Cornus sp.* (dogwood), and *Salix spp.*, in addition to the other species just mentioned, grow commonly.

An interesting succession was noted in this area. Beginning with bare talus slope and culminating with grassland, the usual procedure is reversed, for the first spermatophytes to invade the slide rock are mainly shrubs, principally *Amelanchier sp.*, *Philadelphus lewisii*, *Ribes cereum*, *Rosa sp.*, *Rubus sp.* (raspberry), and *Prunus virginiana* var. *melanocarpa*. Douglas fir, rather than ponderosa pine, frequently occurs among the shrubs. This first stage is an extension of what is happening in similar situations in the Grand Coulee. The next step appears to depend upon the accumulation of enough moisture-holding debris by this narrow strip of deep-rooted species so that perennial herbaceous species, particularly *Agropyron sp.*, are able to establish themselves. Other herbs found occurring along with this grass are *Heuchera sp.* (alumroot), *Leptotaenia sp.*, *Eriogonum heracleioides*, *Poa secunda* and *Woodsia sp.* Apparently these herbaceous species, particularly the grasses, by intercepting precipitation before it can penetrate deeply, gradually kill the shrubby species, whose offspring meanwhile slowly encroach upon new talus.

The principal representative of the second vegetational type in the region, the forest, is ponderosa pine. Scattered trees of this species occur as far down as the Grand Coulee Dam and the north end of the Grand Coulee, but they seldom form a forest along the Columbia below the mouth of the Spokane River. From here northward, along the east bank of the Columbia to the Kettle Falls, and eastward along the Spokane River, the sandy flats no doubt formerly supported open pine forest with shrubs and grassland species interspersed. Now most of this land has been cleared and has for the most part become overrun by weeds, particularly *Bromus tectorum*. Upon the more hilly west side of the river relatively undisturbed ponderosa pine forest still exists. The shrubs of the vicinity of the Spokane River mouth are largely confined to ravines and north slopes, but farther north they spread to more and more exposed ground. Important among these are *Prunus virginiana* var. *melanocarpa*, *Amelanchier* spp., *Rosa* spp., *Prunus emarginata* (wild cherry), *Ribes cereum*, *Crataegus* spp., *Symphoricarpos* sp., *Philadelphus lewisii*, and occasionally *Rhus glabra* and *Sambucus* sp. (elderberry). Along streams one commonly finds, in addition, *Betula fontinalis*, *Corylus californica* (hazelnut), and *Alnus* sp. (alder). Douglas fir is not uncommon in the larger ravines.

Plants of the stony river shore in the vicinity of the Spokane mouth are principally *Eriogonum compositum*, *Viola adunca*, *Artemisia* sp., and *Oxytropis columbiana*. Farther up river other species join these: *Eriogonum heracleoides*, *Senecio laetiflorus*, *Panicum scribnerianum*, *Chrysopsis hispidula*, *Astragalus miser*, and *Allium cernuum*. *Juniperus scopulorum* (rocky mountain juniper) occurs rather commonly on stony bars of the river from Gerome northward, and *Populus* sp. (cottonwood) leans over the river in many places north of the Kettle Falls. *Toxicodendron radicans* (poison ivy) is frequent on the sandy banks in the vicinity of Northport.

North of the Kettle Falls the forest consists largely of second-growth ponderosa pine, Douglas fir, and western larch, the original forest probably having been destroyed by fire. Sparse stands of young ponderosa pine usually prevail on the hills along the west side of the river nearly to the boundary and on the east side of the river to a few miles north of Evans. Among the pines and on dry, rocky outcrops, a variety of shrubs occurs: *Physocarpus malvaceus*, *Sambucus coerulea*, *Prunus virginiana* var. *melanocarpa*, *Symphoricarpos* sp., *Corylus*

californica, *Holodiscus discolor*, *Rosa* spp., *Philadelphus lewisii*, *Rhus glabra*, and *Amelanchier* spp. Grassland species such as *Agropyron* spp., *Balsamorhiza sagittata*, *Stipa comata*, *Koeleria cristata*, *Geranium viscosissimum*, and *Gaillardia aristata* still persist. *Ceanothus velutinus* (deer brush) appears for the first time, and in great abundance, among the ponderosa pines near the Kettle Falls in Stevens County; and *Ceanothus sanguineus* (buck brush) is particularly common above Marcus and, at flowering time in May, fills the air with its fragrance.

Northward from a few miles above Evans in Stevens County, Douglas fir appears to be the climax tree, along with *Larix occidentalis* (western larch). These trees are few in number, however, much of the country being populated by subclimax species. Commonest among these are *Physocarpus malvaceus*, *Corylus californica*, *Salix* spp., *Betula papyrifera* var. *occidentalis* (paper birch), *Pinus contorta* var. *latifolia* (lodgepole pine), *Populus tremuloides* var. *aurea* (aspen), *Acer glabrum* var. *douglasii* (mountain maple), *Ceanothus sanguineus*, *Prunus virginiana* var. *melanocarpa*, *Amelanchier* spp., *Shepherdia canadensis* (Canada buffalo berry), *Symphoricarpos* sp., *Holodiscus discolor*, *Rosa* spp., and *Berberis aquifolium* (Oregon grape). North of Northport and on to the Canadian boundary much of the vegetation points to a *Thuja plicata* (giant cedar) climax, and young trees of this species were found in one instance growing under paper birch and shrubs and, at another place, under young larch. In Stevens County, near Crown Creek and Flat Creek, and again near the boundary above Northport, stands of good-sized cedars occur, with *Picea engelmanni* (Engelmann spruce), paper birch, and *Alnus* sp. along the borders of the creeks. In the mountains between Northport and Ione occur magnificent stands of *Thuja plicata* and *Pinus monticola* (western white pine).

IV. Annotated Catalogue²

POLYPODIACEAE

1. *Athyrium felix-femina* (L.) Roth. Lady fern. Ferry Co.: shaded, moist woods, 1 mile northwest of Growden Guard Station, along Sherman Creek, 15 miles west of Kettle Falls, July 25, 1939, *Boner & Weldert* 243.

2. *Woodsia scopulina* D. C. Eaton. Ferry Co.: rocky, ponderosa pine-covered hills along Columbia River, 3 miles north of Hellgate, above 1290-ft. level, June 12, 1940, *Rogers* 662.

EQUISETACEAE

3. *Equisetum arvense* L. Common horsetail. Lincoln Co.: moist, gravelly road bank along south side of Spokane River, 12 miles above its mouth, above 1290-ft. level, April 18, 1940, *Rogers* 284.

4. *Equisetum hyemale* L. Scouring rush. Ferry Co.: bank of Le Fleur Creek, along Columbia River, 11 miles below the Kettle Falls, above 1290-ft. level, April 27, 1940, *Rogers* 347.

5. *Equisetum laevigatum* A. Br. Stevens Co.: sandy bench along Spokane River, 10 miles above its mouth, below 1290-ft. level, May 21, 1940, *Rogers* 481.

TAXACEAE

6. *Taxus brevifolia* Nutt. Western yew. Stevens Co.: bank of Flat Creek at its confluence with Columbia River, below 1290-ft. level, April 26, 1940, *Rogers* 334 (!Rehder).

PINACEAE

7. *Larix occidentalis* Nutt. Tamarack. Western larch. Stevens Co.: sandy bench in ponderosa pine woods at Marcus, above 1290-ft. level, April 24, 1940, *Rogers* 324 (!Rehder).

8. *Picea engelmannii* (Parry) Engelm. Engelmann spruce. No collections made. Noted along Flat Creek and Sheep Creek, Stevens County.

9. *Pinus contorta* var. *latifolia* Engelm. Lodgepole pine. Stevens Co.: sandy bench along Columbia River, 3 miles above Northport, above 1290-ft. level, June 9, 1940, *Rogers* 645 (!Rehder).

² The specimens which form the basis for this report were for the most part collected in sets of twenty or more sheets each, and a complete or nearly complete series may be consulted at each of the following herbaria: Herbarium of the State College of Washington; Personal collection of the writer; Herbarium of the University of Washington; Herbarium of the New York Botanical Garden; Herbarium of the Missouri Botanical Garden; Herbarium of the University of California, Berkeley; Gray Herbarium of Harvard University; United States National Herbarium; Herbarium of Cornell University; Herbarium of the Utah State Agricultural College; Dudley Herbarium of Stanford University; Herbarium of the University of Idaho, S. B., Pocatello; Herbarium of Pomona College; Rocky Mountain Herbarium of the University of Wyoming; Herbarium of Pennsylvania State College; Herbarium of Butler University; Personal collection of John Bright; Herbarium of the California Academy of Sciences; Herbarium of the University of Wisconsin; Herbarium of the University of Minnesota; Herbarium of the University of Oregon.

10. *Pinus monticola* Dougl. Western white pine. No collections made. Noted in Ferry County in the mountains between Gerome and Keller, and in Stevens County between Northport and Ione.

11. *Pinus ponderosa* Dougl. Ponderosa pine. Western yellow pine. Stevens Co.: north bank of Spokane River, 10 miles above its mouth, below 1290-ft. level, May 12, 1940, *Rogers 432* (!Rehder).

12. *Pseudotsuga taxifolia* (Lamb.) Britton. Douglas fir. No collections made. Not uncommon from the Kettle Falls northward, and in ravines and on north slopes farther down the river nearly to the dam.

CUPRESSACEAE

13. *Juniperus scopulorum* Sarg. Rocky Mountain juniper. Ferry Co.: rocky bank of Columbia River at the Kettle Falls, below 1290-ft. level, April 6, 1940, *Rogers et al. 271* (!Rehder). Stevens Co.: banks of Columbia River, 15 miles below Kettle Falls, almost entirely restricted to a narrow zone just above high-water mark, April 22, 1939, *Sharsmith 4009*.

14. *Thuja plicata* Donn. Giant cedar. No collections made. Noted in Stevens County at Flat Creek, Crown Creek, and Sheep Creek, and near the Canadian border.

JUNCAGINACEAE

15. *Triglochin maritima* L. Arrowgrass. Stevens Co.: springy, gravelly place on Columbia River at Rickey's Rapids, 4 miles south of Kettle Falls, July 13, 1939, *Boner & Weldert 230*.

GRAMINEAE

16. *Agropyron inerme* (Scribn. & Smith) Rydb. Beardless wheatgrass. Lincoln Co.: gravelly hill along south side of Spokane River near its mouth, about 1290-ft. level, May 22, 1940, *Rogers 508* (!Swallen).

17. *Agrostis alba* L. Redtop. Stevens Co.: moist place near Colville River at its confluence with Columbia River, July 31, 1939, *Boner & Weldert 257*. Introduced from Europe and escaped from cultivation.

18. *Agrostis interrupta* L. Ferry Co.: moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 572* (!Swallen). Stevens Co.: damp, grassy place near the falls, Kettle Falls, June 30, 1939, *Boner & Weldert 189*.

19. *Alopecurus aequalis* Sobol. Short-awn foxtail. Ferry Co.: moist banks of Nez Perce Creek at its confluence with Columbia River, below 1290-ft. level, April 28, 1940, *Rogers 351* (!Swallen); moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 565* (!Swallen). Stevens Co.: moist soil along Colville River at its confluence with Columbia River, below 1290-ft. level, June 8, 1940, *Rogers 635* (!Swallen); marshy border of pond, southwestern part of county, May 27, 1939, *Sharsmith 4032*.

20. *Anthoxanthum aristatum* Boiss. Stevens Co.: dry, grassy field above Columbia River at Kettle Falls, July 16, 1939, *Boner & Weldert 231*. Introduced from Europe.

21. *Bromus commutatus* Schrad. Hairy chess. Ferry Co.: damp, sandy place along Kettle River, 2 miles north of Boyds, July 3, 1939, *Boner & Weldert* 196. Introduced from Europe.

22. *Bromus marginatus* Nees. Stevens Co.: sandy slope along Columbia River, 3 miles below mouth of Flat Creek, above 1290-ft. level, May 29, 1940, *Rogers* 557 (!Swallen).

23. *Bromus mollis* L. Soft chess. Stevens Co.: sandy bench along north side of Spokane River, 10 miles above its mouth, below 1290-ft. level, May 21, 1940, *Rogers* 482 (!Swallen). Introduced from Europe.

24. *Bromus suksdorfii* Vasey. Ferry Co.: open, moist woods, 1 mile northwest of Growden Guard Station, along Sherman Creek, 15 miles west of Kettle Falls, July 25, 1939, *Boner & Weldert* 241.

25. *Bromus tectorum* L. Cheat grass. No collections made. Abundant throughout the area from the Grand Coulee to the Kettle Falls; less common farther north. Introduced from Europe.

26. *Danthonia spicata* (L.) Beauv. Poverty oatgrass. Stevens Co.: crevices in rocks near the falls, Kettle Falls, June 30, 1939, *Boner & Weldert* 186.

27. *Danthonia unispicata* Munro. One-spike oatgrass. Lincoln Co.: sandy south shore of Spokane River, 5 miles above its mouth, below 1290-ft. level, May 21, 1940, *Rogers* 496 (!Swallen).

28. *Deschampsia caespitosa* (L.) Beauv. Tufted hairgrass. Stevens Co.: sandy, moist shore of Columbia River, 1 mile south of Kettle Falls, July 30, 1939, *Boner & Weldert* 251.

29. *Deschampsia danthonioides* (Trin.) Munro. Annual hairgrass. Stevens Co.: gravelly open place near the falls, Kettle Falls, June 30, 1939, *Boner & Weldert* 185.

30. *Distichlis stricta* (Torr.) Rydb. Desert saltgrass. Grant Co.: border of alkaline pond in the Grand Coulee, 7 miles north of the Dry Falls, June 2, 1940, *Rogers* 586 (!Swallen), *Rogers* 587 (!Swallen).

31. *Echinochloa crusgalli* (L.) Beauv. Barnyard grass. Stevens Co.: muddy place on rocks near Columbia River at the falls, Kettle Falls, July 20, 1939, *Boner & Weldert* 236.

32. *Elymus canadensis* L. Canada wild-rye. Ferry Co.: damp, sandy place along Kettle River, 2 miles north of Boyds, July 12, 1939, *Boner & Weldert* 225.

33. *Elymus condensatus* Presl. Giant wild-rye. Grant Co.: in greasewood in the Grand Coulee, 7 miles north of the Dry Falls, June 2, 1940, *Rogers* 591 (!Swallen). Stevens Co.: dry, grassy field above Columbia River at Kettle Falls, July 16, 1939, *Boner & Weldert* 232.

34. *Elymus glaucus* Buckl. Blue wild-rye. Ferry Co.: dry bank along roadside near Columbia River, 3 miles north of Kettle Falls, July 12, 1939, *Boner & Weldert* 226.

35. *Festuca dertonensis* (All.) Aschers. & Graebn. Grant Co.: roadside in sagebrush in the Grand Coulee, 11 miles north of the Dry Falls, May 17, 1940, *Rogers* 449 (!Swallen). Stevens Co.: sandy bar, south side of Columbia River at Gerome, below 1290-ft. level, May 7, 1940, *Rogers* 402 (!Swallen); sandy flat

along Columbia River at Hunters Ferry, below 1290-ft. level, May 23, 1940, *Rogers 517* (!Swallen). Introduced from Europe.

36. *Festuca idahoensis* Elmer. Bluebunch fescue. Lincoln Co.: sandy north slope at mouth of Spokane River, below 1290-ft. level, May 31, 1940, *Rogers 581*; hill along south side of Spokane River, 2 miles above its mouth, above 1290-ft. level, June 6, 1940, *Rogers 618* (!Swallen). Stevens Co.: sandy slope along south side of Columbia River, 1 mile below Gerome, below 1290-ft. level, May 23, 1940, *Rogers 513* (!Swallen).

37. *Festuca occidentalis* Hook. Western fescue. Stevens Co.: Brushy woods along Columbia River, 6 miles above Northport, above 1290-ft. level, June 9, 1940, *Rogers 643* (!Swallen).

38. *Festuca pacifica* Piper. Stevens Co.: gravelly open place near the falls, Kettle Falls, June 30, 1939, *Boner & Weldert 187*.

39. *Festuca rubra* L. Red fescue. Lincoln Co.: sandy south shore of Spokane River, 5 miles above its mouth, below 1290-ft. level, May 21, 1940, *Rogers 495b* (!Swallen).

40. *Glyceria borealis* (Nash) Batchelder. Northern mannagrass. Stevens Co.: in shallow water of fresh-water pond, southwestern part of county, May 27, 1939, *Sharsmith 4033*.

41. *Glyceria elata* (Nash) Hitchc. Tall mannagrass. Ferry Co.: shaded, marshy spot along Sherman Creek, 1 mile northwest of Growden Guard Station, 15 miles west of Kettle Falls, July 25, 1939, *Boner & Weldert 242*; moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 571* (!Swallen).

42. *Glyceria striata* (Lam.) Hitchc. Fowl mannagrass. Ferry Co.: moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 577* (!Swallen).

43. *Hierochloa odorata* (L.) Beauv. Sweetgrass. Stevens Co.: in river cobbles of dry flood channel of Columbia River, 16 miles south of Kettle Falls, April 22, 1939, *Sharsmith 4012*.

44. *Koeleria cristata* (L.) Pers. Junegrass. Ferry Co.: sandy west shore of Columbia River at Inchelium, below 1290-ft. level, May 25, 1940, *Rogers 530* (!Swallen). Stevens Co.: sandy flat along Columbia River at Hunters Ferry, below 1290-ft. level, May 23, 1940, *Rogers 516* (!Swallen).

45. *Leersia oryzoides* (L.) Swartz. Rice cutgrass. Stevens Co.: moist place near Colville River at its confluence with Columbia River, July 31, 1939, *Boner & Weldert 258*.

46. *Oryzopsis hymenoides* (R. & S.) Ricker. Indian ricegrass. Lincoln Co.: sandy hill along south side of Columbia River, 3 miles above Grand Coulee Dam, above 1290-ft. level, May 18, 1940, *Rogers 460* (!Swallen).

47. *Panicum scribnerianum* Nash. Stevens Co.: sandy west bank of Columbia River at Northport, below 1290-ft. level, May 28, 1940, *Rogers 549* (!Swallen); among boulders on bank of Spokane River about 6 miles above its confluence with Columbia River, May 27, 1939, *Sharsmith 4026*.

48. *Poa ampla* Merr. Big bluegrass. Grant Co.: border of alkaline pond in the Grand Coulee, 7 miles north of the Dry Falls, June 2, 1940, *Rogers 589*

(!Swallen). Stevens Co.: dry bank along Columbia River, 2 miles southwest of Northport, July 8, 1939, *Boner & Weldert 209*; sandy slope along south side of Columbia River, 1 mile below Gerome, below 1290-ft. level, May 23, 1940, *Rogers 512* (!Swallen).

49. *Poa annua* L. Annual bluegrass. Ferry Co.: moist banks of Nez Perce Creek at its confluence with Columbia River, below 1290-ft. level, April 28, 1940, *Rogers 352* (!Swallen). Introduced from Europe.

50. *Poa canbyi* (Scribn.) Piper. Canby bluegrass. Ferry Co.: sandy west shore of Columbia River at Inchelium, below 1290-ft. level, May 25, 1940, *Rogers 531* (!Swallen).

51. *Poa compressa* L. Canada bluegrass. Ferry Co.: damp, sandy place along Kettle River, 2 miles north of Boyds, July 3, 1939, *Boner & Weldert 194*. Lincoln Co.: sandy south shore of Spokane River, 5 miles above its mouth, below 1290-ft. level, May 22, 1940, *Rogers 510* (!Swallen). Introduced from Europe.

52. *Poa nervosa* (Hook.) Vasey. Wheeler bluegrass. Stevens Co.: rocky north slope on south side of Columbia River, 2 miles below Gerome, below 1290-ft. level, May 6, 1940, *Rogers 401* (!Swallen).

53. *Poa palustris* L. Fowl bluegrass. Ferry Co.: moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 570* (!Swallen).

54. *Poa pratensis* L. Kentucky bluegrass. Stevens Co.: in sand by bank of Spokane River about 6 miles above its confluence with Columbia River, May 27, 1939, *Sharsmith 4025*. Introduced from Europe. Escaped from cultivation.

55. *Poa secunda* Presl. Sandberg bluegrass. Grant Co.: in the Grand Coulee, 7 miles north of the Dry Falls, May 17, 1940, *Rogers 433* (!Swallen). Lincoln Co.: grassy slope along south side of Columbia River, 5 miles above the Grand Coulee Dam, above 1290-ft. level, May 2, 1940, *Rogers 380* (!Swallen).

56. *Puccinellia nuttalliana* (Schult.) Hitchc. Nuttall alkali-grass. Grant Co.: border of alkaline pond in the Grand Coulee, 7 miles north of the Dry Falls, June 2, 1940, *Rogers 588* (!Swallen).

57. *Spartina gracilis* Trin. Alkali cordgrass. Grant Co.: in the Grand Coulee in the mouth of Northrup Canyon and about 8 miles southwest of the Grand Coulee Dam, June 4, 1940, *Rogers 610* (!Swallen).

58. *Stipa columbiana* Macoun. Columbia needlegrass. Ferry Co.: sandy west shore of Columbia River at Inchelium, below 1290-ft. level, May 25, 1940, *Rogers 533* (!Swallen). Stevens Co.: dry, sandy roadside, $\frac{1}{2}$ mile from Columbia River, about 4 miles south of Kettle Falls, July 11, 1939, *Boner & Weldert 220*.

59. *Stipa comata* Trin. & Rupr. Needle-and-thread. Stevens Co.: dry, sandy roadside, $\frac{1}{2}$ mile from Columbia River, Kettle Falls, July 10, 1939, *Boner & Weldert 217*; sandy flat along Columbia River, 1 mile below Northport, below 1290-ft. level, May 28, 1940, *Rogers 548* (!Swallen).

60. *Stipa elmeri* Piper & Brodie. Stevens Co.: dry, sandy roadside, $\frac{1}{2}$ mile from Columbia River, Kettle Falls, July 10, 1939, *Boner & Weldert 210*.

61. *Stipa lemmoni* (Vasey) Scribn. Lemmon needlegrass. Ferry Co.: sandy west bank of Columbia River, 1 mile above the Kettle Falls, below 1290-ft. level, May 10, 1940, *Rogers 422* (!Swallen).

62. *Stipa thurberiana* Piper. Thurber needlegrass. Lincoln Co.: hill along south side of Spokane River, 2 miles above its mouth, above 1290-ft level, June 6, 1940, *Rogers 617* (!Swallen).

63. *Trisetum canescens* Buckl. Tall trisetum. Ferry Co.: moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 573* (!Swallen).

CYPERACEAE

64. *Carex brevior* (Dewey) Mack. Stevens Co.: damp, grassy spot near Columbia River, 2 miles south of Kettle Falls, June 26, 1939, *Boner & Weldert 178*; stony shore of Columbia River at mouth of Flat Creek, below 1290-ft. level, May 29, 1940, *Rogers 555* (!Hermann).

65. *Carex hystericina* Muhl. Stevens Co.: bog along creek, 1 mile southeast of Gerome, above 1290-ft. level, June 7, 1940, *Rogers 621* (!Hermann).

66. *Carex leptopoda* Mack. Ferry Co.: moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 563* (!Hermann).

67. *Carex pachystachya* Cham. Ferry Co.: moist banks of Nez Perce Creek at its confluence with Columbia River at Hunters Ferry, below 1290-ft. level, May 11, 1940, *Rogers 429* (!Hermann).

68. *Carex retrorsa* Schwein. Stevens Co.: moist, sandy, half-shaded place on Colville River near its confluence with Columbia River, June 19, 1939, *Boner & Weldert 160*.

69. *Carex stipata* Muhl. Ferry Co.: moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 569* (!Hermann). Stevens Co.: low, damp ground near Colville River, 2 miles south of Kettle Falls, June 17, 1939, *Boner & Weldert 159*.

70. *Scirpus microcarpus* Presl. Stevens Co.: springy, gravelly place on Columbia River at Rickey's Rapids, 4 miles south of Kettle Falls, July 13, 1939, *Boner & Weldert 228*.

71. *Scirpus nevadensis* Wats. Grant Co.: border of alkaline pond in the Grand Coulee, 7 miles north of the Dry Falls, June 12, 1940, *Rogers 665* (!Hermann).

72. *Scirpus validus* Vahl. Tule. Stevens Co.: moist place near Colville River at its confluence with Columbia River, July 31, 1939, *Boner & Weldert 255*.

ARACEAE

73. *Lysichitum americanum* Hultén & St. John. Skunk cabbage. Stevens Co.: bog along creek, 1 mile southeast of Gerome, above 1290-ft. level, April 6, 1940, *Rogers et al. 267*; same place, June 7, 1940, *Rogers 620*.

JUNCACEAE

74. *Juncus balticus* var. *montanus* Engelm. Grant Co.: border of alkaline pond in the Grand Coulee, 7 miles north of the Dry Falls, June 2, 1940, *Rogers 590* (!Hermann).

75. *Juncus dudleyi* Wieg. Stevens Co.: open grassy bank of Colville River, T. 36 N., R. 37 E., June 19, 1939, *Boner & Weldert 161*.

76. *Juncus interior* Wieg. Ferry Co.: sandy shore of Columbia River, 1 mile below the Kettle Falls, below 1290-ft. level, June 11, 1940, *Rogers 651* (!Hermann)

77. *Luzula parviflora* (Ehrh.) Desv. Ferry Co.: mossy, half-shaded slope, Graves Lookout, elevation 5977 ft., July 18, 1939, *Boner & Weldert 233*.

LILIACEAE

78. *Allium acuminatum* Hook. Grant Co.: in the Grand Coulee, 7 miles north of the Dry Falls, May 17, 1940, *Rogers 436* (!Ownbey).

79. *Allium cernuum* Roth. Nodding onion. Stevens Co.: dry, rocky roadside along Columbia River, 6 miles south of Northport, July 8, 1939, *Boner & Weldert 211* (!Ownbey).

80. *Allium douglasii* Hook. Lincoln Co.: sandy south shore of Spokane River, 5 miles above its mouth, below 1290-ft. level, May 21, 1940, *Rogers 497* (!Ownbey). Stevens Co.: sandy bank of Spokane River, 6 miles above its confluence with Columbia River, May 27, 1939, *Sharsmith 4024* (!Ownbey).

81. *Allium schoenoprasum* var. *laurentianum* Fern. Stevens Co.: springy, gravelly place on Columbia River at Rickey's Rapids, 4 miles south of Kettle Falls, July 13, 1939, *Boner & Weldert 229* (!Ownbey).

82. *Calochortus macrocarpus* Dougl. Sagebrush mariposa. Ferry Co.: sandy slope along Columbia River at Keller Ferry, below 1290-ft. level, June 12, 1940, *Rogers 667* (!Ownbey). Stevens Co., $\frac{1}{4}$ mile from Columbia River, dry sandy roadside, Kettle Falls, July 10, 1939, *Boner & Weldert 216* (!Ownbey).

83. *Camassia quamash* (Pursh) Greene. Camas. Ferry Co.: loamy bench along Columbia River, 1 mile below mouth of Kettle River, above 1290-ft. level, April 26, 1940, *Rogers 342* (!Ownbey).

84. *Erythronium grandiflorum* Pursh. Dogtooth violet; lamb's tongue. Stevens Co.: sandy loam in ponderosa pine forest along Columbia River, 3 miles above mouth of Spokane River, below 1290-ft. level, April 5, 1940, *Rogers et al. 260* (!Ownbey), growing with *Rogers et al. 261*.

84a. *Erythronium grandiflorum* var. *pallidum* St. John. Stevens Co.: sandy loam in ponderosa pine forest along Columbia River, 3 miles above mouth of Spokane River, below 1290-ft. level, April 5, 1940, *Rogers et al. 261* (!Ownbey), growing with *Rogers et al. 260*.

85. *Fritillaria pudica* (Pursh) Spreng. Yellowbell. Stevens Co.: brushy slope along east side of Kettle River, 4 miles above its mouth, above 1290-ft. level, April 6, 1940, *Rogers et al. 269* (!Ownbey). Grant Co.: grassy hills, south side of Columbia River, 1 mile up river from Grand Coulee Dam, above 1290-ft. level, April 3, 1940, *Rogers et al. 237* (!Ownbey). Lincoln Co.: gravelly hill along south side of Spokane River at its mouth, about 1290-ft. level, April 5, 1940, *Rogers et al. 258* (!Ownbey).

86. *Lilium columbianum* Hanson. Wild tiger-lily. Stevens Co.: brushy woods along Columbia River, 6 miles above Northport, above 1290-ft. level, June 4, 1940, *Rogers 644* (!Ownbey).

87. *Smilacina racemosa* (L.) Desf. False Solomon's seal. Stevens Co.: north slope in ravine along east side of Columbia River, 10 miles above Hunters, below 1290-ft. level, May 7, 1940, *Rogers 404* (!Ownbey).

88. *Smilacina stellata* (L.) Desf. Star Solomon's seal; spikenard. Ferry Co.: moist banks of Nez Perce Creek at its confluence with Columbia River at Hunters Ferry, below 1290-ft. level, May 11, 1940, *Rogers 428* (!Ownbey).

89. *Trillium petiolatum* Pursh. Purple trillium. Stevens Co.: sandy soil near creek along Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, April 5, 1940, *Rogers et al. 263* (!Ownbey)

90. *Triteleia grandiflora* Lindl. Wild hyacinth. Lincoln Co.: sandy bench on south side of Columbia River at Keller Ferry, below 1290-ft. level, April 20, 1940, *Rogers 297* (!Ownbey). Stevens Co.: gravelly south slope, east side of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, April 21, 1940, *Rogers 307* (!Ownbey).

91. *Zygadenus gramineus* Rydb. Grassy death camas. Ferry Co.: sandy slope along Columbia River opposite Gerome, below 1290-ft. level, April 29, 1940, *Rogers 361* (!Ownbey).

IRIDACEAE

92. *Iris missouriensis* Nutt. Iris; western blue flag. Grant Co.: marshy ground in the Grand Coulee, 13 miles north of the Dry Falls, May 17, 1940, *Rogers 450*.

ORCHIDACEAE

93. *Corallorrhiza maculata* Raf. Spotted coralroot. Ferry Co.: open woods 13 miles west of Gerome, at "Spike" Anderson Ranch, June 12, 1940, *Rogers 657*.

94. *Habenaria dilatata* var. *leucostachys* (Lindl.) Ames. White-flowered bog orchid. Ferry Co.: wet place along Sherman Creek, 12 miles west of Kettle Falls, July 4, 1939, *Boner & Weldert 199*.

95. *Habenaria elegans* (Lindl.) Boland. Stevens Co.: under ponderosa pines, ½ mile from Columbia River, 2 miles south of Kettle Falls, July 19, 1939, *Boner & Weldert 235*.

SALICACEAE

96. *Populus trichocarpa* var. *hastata* (Dode) Henry. Black cottonwood. Ferry Co.: along creek, along Columbia River, 9 miles below the Kettle Falls, below 1290-ft. level, April 27, 1940, *Rogers 346* (!Rehder).

97. *Populus tremuloides* var. *aurea* (Tidestr.) Sarg. Aspen. Stevens Co.: hills along Columbia River, 10 miles north of Marcus, above 1290-ft. level, April 7, 1940, *Rogers et al. 274* (!Rehder).

98. *Salix amygdaloides* Andersson. Peach willow. Grant Co.: along creek, 1 mile west of Deep Lake, in the Grand Coulee below the Dry Falls, May 1, 1940, *Rogers 371* (!Ball), *Rogers 372* (!Ball).

99. *Salix caudata* (Nutt.) Heller. Lincoln Co.: stony south shore of Spokane River, 6 miles above its mouth, below 1290-ft. level, May 21, 1940, *Rogers 491* (!Ball), *Rogers 492* (!Ball), *Rogers 493* (!Ball). Stevens Co.: moist roadside along Columbia River, 9 miles below the Kettle Falls, above 1290-ft. level, June 8, 1940, *Rogers 632* (!Ball); bank of Onion Creek at its confluence with Columbia River, about 1290-ft. level, June 9, 1940, *Rogers 637* (!Ball).

100. *Salix exigua* Nutt. Ferry Co.: bank of Hall Creek at its confluence with Columbia River, below 1290-ft. level, May 25, 1940, *Rogers 536*. Grant Co.: along

creek, 1 mile west of Deep Lake, in the Grand Coulee below the Dry Falls, May 1, 1940, *Rogers 370* (!Ball). Lincoln Co.: stony south shore of Spokane River, 6 miles above its mouth, below 1290-ft. level, May 21, 1940, *Rogers 494* (!Ball). Stevens Co.: moist roadside along Columbia River, 9 miles below the Kettle Falls, above 1290-ft. level, June 8, 1940, *Rogers 630* (!Ball).

100a. *Salix exigua* var. *luteosericea* (Rydb.) Schn. Stevens Co.: moist roadside along Columbia River, 9 miles below the Kettle Falls, above 1290-ft. level, June 8, 1940, *Rogers 631* (!Ball).

101. *Salix lasiandra* var. *lancifolia* (And.) Bebb. Black willow. Ferry Co.: bank of Hall Creek at its confluence with Columbia River, below 1290-ft. level, May 25, 1940, *Rogers 534* (!Ball).

102. *Salix mackenziana* (Hook.) Barratt. Ferry Co.: bank of Hall Creek at its confluence with Columbia River, below 1290-ft. level, May 25, 1940, *Rogers 535* (!Ball). Stevens Co.: bank of Flat Creek at its confluence with Columbia River, below 1290-ft. level, May 10, 1940, *Rogers 416* (!Ball), *Rogers 417* (!Ball); moist roadside along Columbia River, 9 miles below the Kettle Falls, above 1290-ft. level, June 8, 1940, *Rogers 633* (!Ball).

103. *Salix scouleriana* Barratt. Pussywillow. Stevens Co.: hills along Columbia River, 10 miles north of Marcus, above 1290-ft. level, April 7, 1940, *Rogers et al. 276* (!Ball); ravine along Columbia River, 13 miles below Northport, above 1290-ft. level, April 25, 1940, *Rogers 331* (!Ball); same place, June 10, 1941, *Rogers 648* (!Ball).

BETULACEAE

104. *Alnus sinuata* (Regel) Rydb. Alder. Stevens Co.: woods along east side of Columbia River near the Canadian Boundary, above 1290-ft. level, May 9, 1940, *Rogers 412* (!Rehder).

105. *Betula papyrifera* var. *occidentalis* (Hook.) Sarg. Paper birch; canoe birch. Ferry Co.: along creek, 13 miles west of Gerome, on "Spike" Anderson Ranch, above 1290-ft. level, April 29, 1940, *Rogers 365* (!Rehder), *Rogers 366* (!Rehder). Stevens Co.: rocky slope on east side of Columbia River, 6 miles below Northport, above 1290-ft. level, April 6, 1940, *Rogers et al. 273* (!Rehder); wooded ravine along Columbia River, 12 miles below Northport, above 1290-ft. level, April 25, 1940, *Rogers 330* (!Rehder).

106. *Corylus californica* (A. DC.) Rose. Californian hazelnut. Stevens Co.: bank of creek, 2 miles southeast of Gerome, above 1290-ft. level, April 6, 1940, *Rogers et al. 266* (!Rehder); hills along Columbia River, 10 miles north of Marcus, above 1290-ft. level, April 7, 1940, *Rogers et al. 275* (!Rehder).

URTICACEAE

107. *Urtica gracilis* Ait. Nettle. Stevens Co.: bog along creek, 1 mile southeast of Gerome, above 1290-ft. level, June 7, 1940, *Rogers 622*.

108. *Urtica lyallii* Wats. Nettle. British Columbia: moist stream bank, upper East Fork of Sheep Creek, about 5 miles north of International Boundary, near Patterson, vicinity of Trail, June 17, 1939, *Sharsmith 4045*.

SANTALACEAE

109. *Comandra pallida* A. DC. Bastard toad-flax. Lincoln Co.: sandy hill along south side of Columbia River, 3 miles above Grand Coulee Dam, about 1290-ft. level, May 2, 1940, *Rogers 382*.

POLYGONACEAE

110. *Eriogonum compositum* Dougl. Grant Co.: west-facing talus slope in the Grand Coulee, 8 miles north of the Dry Falls, May 17, 1940, *Rogers 444* (!Goodman). Stevens Co.: sandy shore of Columbia River at Gifford Ferry, below 1290-ft. level, May 24, 1940, *Rogers 521* (!Goodman).

111. *Eriogonum heracleoides* Nutt. Ferry Co.: stony beach of Columbia River, 12 miles north of Inchelium, below 1290-ft. level, May 25, 1940, *Rogers 538* (!Goodman). Lincoln Co.: gravelly hill along south side of Spokane River at its mouth, below 1290-ft. level, May 22, 1940, *Rogers 507* (!Goodman).

112. *Eriogonum sphaerocephalum* Dougl. Grant Co.: west-facing basalt talus slope in the Grand Coulee, 11 miles south of Grand Coulee Dam, June 4, 1940, *Rogers 608* (!Goodman).

113. *Eriogonum thymoides* Benth. Douglas Co.: rocky south slope, 2 miles west of Coulee City, May 1, 1940, *Rogers 373* (!Goodman).

114. *Polygonum majus* (Meisn.) Piper. Lincoln Co.: sandy hill along south side of Columbia River, 3 miles above Grand Coulee Dam, above 1290-ft. level, May 18, 1940, *Rogers 461* (!Goodman).

115. *Rumex venosus* Pursh. Sand dock. Lincoln Co.: gravelly hill along south side of Columbia River, 4 miles below mouth of Spokane River, below 1290-ft. level, April 18, 1940, *Rogers 281* (!Goodman). Stevens Co.: sandy bench along north side of Spokane River, 10 miles above its mouth, below 1290-ft. level, May 21, 1940, *Rogers 483* (!Goodman).

CHENOPODIACEAE

116. *Grayia spinosa* (Hook.) Moq. Spiny hop sage. Grant Co.: in the Grand Coulee, 15 miles south of the Grand Coulee Dam, May 1, 1940, *Rogers 374* (!Rehder), *Rogers 375* (!Rehder).

117. *Sarcobatus vermiculatus* (Hook.) Torr. Greasewood. Grant Co.: alkaline soil in the Grand Coulee, 11 miles north of the Dry Falls, May 17, 1940, *Rogers 447* (!Rehder).

PORTULACACEAE

118. *Claytonia arenicola* Henders. Lincoln Co.: gravelly hill along south side of Spokane River at its mouth, about 1290-ft. level, April 5, 1940, *Rogers et al. 257*.

119. *Claytonia lanceolata* Pursh. Spring beauty. Stevens Co.: sandy loam in ponderosa pine forest along Columbia River, 3 miles above mouth of Spokane River, below 1290-ft. level, April 5, 1940, *Rogers et al. 259*.

120. *Claytonia linearis* Dougl. Stevens Co.: sandy flat along east side of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, April 5, 1940, *Rogers et al. 265*; sandy bench along east side of Kettle River, 2 miles above its mouth, above 1290-ft. level, April 26, 1940, *Rogers 341*.

121. *Claytonia parviflora* Dougl. Lincoln Co.: gravelly hill at mouth of Spokane River, below 1290-ft. level, May 5, 1940, *Rogers* 389. Stevens Co.: moist ground along creek along east side of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, May 6, 1940, *Rogers* 397.

121a. *Claytonia parviflora* var. *depressa* Gray. Lincoln Co.: sandy bench on south side of Columbia River at Keller Ferry, below 1290-ft. level, April 20, 1940, *Rogers* 296. Stevens Co.: sandy flat along east side of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, April 5, 1940, *Rogers et al* 264.

122. *Talinum spinescens* Torr. Grant Co.: shallow, rocky soil in the Grand Coulee, 6 miles north of the Dry Falls, June 2, 1940, *Rogers* 595.

CARYOPHYLLACEAE

123. *Arenaria cephaloidea* Rydb. Grant Co.: in sagebrush in the Grant Coulee, 20 miles north of the Dry Falls, June 4, 1940, *Rogers* 604 (!Maguire).

124. *Arenaria lateriflora* L. Ferry Co.: moist banks of Nez Perce Creek at Hunters Ferry, below 1290-ft level, May 11, 1940, *Rogers* 430 (!Maguire).

125. *Cerastium nutans* Raf. Ferry Co.: moist banks of Nez Perce Creek at Hunters Ferry, below 1290-ft. level, April 28, 1940, *Rogers* 356 (!Maguire).

126. *Dianthus armeria* L. Stevens Co.: damp, grassy place along Colville River near its confluence with Columbia River, July 5, 1939, *Boner & Weldert* 205. Introduced from Europe.

127. *Saponaria officinalis* L. Bouncing Bet. Stevens Co.: dry roadside near Columbia River at Kettle Falls, July 28, 1939, *Boner & Weldert* 246. A European plant persisting from cultivation.

128. *Silene antirrhina* L. Sleepy catchfly. Ferry Co.: dry, grassy, sandy place along Kettle River near Barstow, July 3, 1939, *Boner & Weldert* 193.

129. *Silene douglasii* Hook. Lincoln Co.: north slope at mouth of Spokane River, below 1290-ft. level, May 22, 1940, *Rogers* 501 (!Maguire).

130. *Silene menziesii* DC. Grant Co.: along irrigation flume in the Grand Coulee, 8 miles above the Dry Falls, May 17, 1940, *Rogers* 442 (!Maguire). Stevens Co.: open woods along west side of Columbia River at Northport, about 1290-ft. level, May 28, 1940, *Rogers* 547 (!Maguire).

131. *Spergularia rubra* (L.) J. & C. Presl. Stevens Co.: dry, rocky roadbed, Kettle Falls, July 2, 1939, *Boner & Weldert* 190.

132. *Stellaria longipes* Goldie. Ferry Co.: moist ground by pond along Columbia River, 8 miles below the Kettle Falls, below 1290-ft. level, May 25, 1940, *Rogers* 540 (!Maguire).

133. *Stellaria nitens* Nutt. Shining chickweed. Lincoln Co.: loamy flat, south side of Spokane River, 5 miles above its mouth, below 1290-ft. level, April 20, 1940, *Rogers* 301 (!Maguire).

RANUNCULACEAE

134. *Anemone hudsoniana* (DC.) Richards. Stevens Co.: rocky point on Columbia River, 2 miles south of Gifford, June 28, 1939, *Boner & Weldert* 181; stony east shore of Columbia River, 10 miles north of Gifford Ferry, below 1290-ft. level, April 23, 1940, *Rogers* 321.

135. *Clematis columbiana* (Nutt.) T. & G. Purple clematis. Stevens Co.: shrubby hill, 1 mile northeast of Marcus, above 1290-ft. level, April 24, 1940, *Rogers 325*; woods along Flat Creek near its confluence with Columbia River, April 26, 1940, *Rogers 335*.

136. *Clematis ligusticifolia* Nutt. White clematis. Stevens Co.: low damp ground near Colville River, 2 miles south of Kettle Falls, June 17, 1939, *Boner & Weldert 158*; along Colville River at its mouth, below 1290-ft. level, June 8, 1940, *Rogers 636*.

137. *Delphinium depauperatum* Nutt. Larkspur. Ferry Co.: gravelly hill by creek, 1 mile north of Keller Ferry, along west side of San Poil River, below 1290-ft. level, May 20, 1940, *Rogers 478*; Stevens Co.: gravelly west slope along east side of Kettle River, 10 miles above its mouth, above 1290-ft. level, April 26, 1940, *Rogers 339*.

138. *Delphinium nelsonii* Greene. Larkspur. Grant Co.: in *Grayia* association in the Grand Coulee, 9 miles south of the Grand Coulee Dam, April 19, 1940, *Rogers 289*. Stevens Co.: gravelly south slope, east side of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, April 21, 1940, *Rogers 308*.

139. *Myosurus aristatus* Benth. Mousetail. Grant Co.: in sagebrush in the Grand Coulee, 8 miles north of the Dry Falls, April 19, 1940, *Rogers 286*. Stevens Co.: open, disturbed ground on level alluvial bench just above Columbia River, about 10 miles south of Kettle Falls, April 22, 1939, *Sharsmith 4010*.

140. *Ranunculus abortivus* L. Ferry Co.: moist banks of Nez Perce Creek at its confluence with Columbia River, below 1290-ft. level, April 28, 1940, *Rogers 355* (!Benson).

141. *Ranunculus bongardii* Greene. Ferry Co.: moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 561* (!Benson).

142. *Ranunculus cymbalaria* var. *saximontanus* Fern. Grant Co.: edge of alkaline pond in the Grand Coulee, 7 miles north of the Dry Falls, May 17, 1940, *Rogers 434* (!Benson).

143. *Ranunculus glaberrimus* Hook. Buttercup. Ferry Co.: gravelly flat along west side of Kettle River, 3 miles above its mouth, above 1290-ft. level, April 23, 1940, *Rogers 323* (!Benson). Lincoln Co.: sandy bench on south side of Columbia River at Keller Ferry, below 1290-ft. level, April 4, 1940, *Rogers et al. 248* (!Benson). Stevens Co.: rocky hills, 2 miles southeast of the Kettle Falls, above 1290-ft. level, April 27, 1940, *Rogers 344* (!Benson).

144. *Ranunculus macounii* Britt. Ferry Co.: moist banks of Barnaby Creek at its confluence with the Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 560* (!Benson).

145. *Ranunculus orthorhynchus* var. *platyphyllus* Gray. Stevens Co.: moist ground bordering Colville River, just above its confluence with Columbia River, May 27, 1939, *Sharsmith 4036*.

146. *Ranunculus purshii* Richards. Stevens Co.: slough near confluence of Colville River with Columbia River, June 23, 1939, *Boner & Weldert 173*.

147. *Ranunculus repens* L. Stevens Co.: damp, open place south of Colville

River, near its confluence with Columbia River, June 26, 1939, *Boner & Weldert 177*; moist soil along Colville River near its confluence with Columbia River, below 1290-ft. level, June 8, 1940, *Rogers 634* (!Benson).

148. *Ranunculus reptans* L. Creeping buttercup. Ferry Co.: damp sand along Kettle River, 2 miles northwest of Boyds, July 28, 1939, *Boner & Weldert 247*.

149. *Ranunculus sceleratus* var. *multifidus* Nutt. Cursed crowfoot. Stevens Co.: marshy border of pond, southwestern part of county, May 27, 1939, *Shar-smith 4030*.

150. *Ranunculus testiculatus* Crantz. Grant Co.: in sagebrush in the Grand Coulee, 8 miles north of the Dry Falls, April 19, 1940, *Rogers 287* (!Benson); same place, May 4, 1940, *Rogers 386* (!Benson). Stevens Co.: 1 mile east of Columbia River, on clay bank of road connecting Columbia River with Hunters, above 1290-ft. level, May 7, 1940, *Rogers 403* (!Benson). This is the first record for the species in the state. Introduced—probably from Europe.

151. *Ranunculus trichophyllus* Chaix. Stevens Co.: in water, in slough just south of Colville River near its confluence with Columbia River, June 26, 1939, *Boner & Weldert 176*.

152. *Trautvetteria grandis* Nutt. False bugbane. Ferry Co.: wet place along Sherman Creek, 12 miles west of Kettle Falls, July 4, 1939, *Boner & Weldert 198*; under shrubs along stream through woods, 12 miles west of Gerome, June 11, 1940, *Rogers 656*.

BERBERIDACEAE

153. *Berberis aquifolium* Pursh. Oregon grape. Lincoln Co.: gravelly south bank of Spokane River, 6 miles above its mouth, below 1290-ft. level, April 18, 1940, *Rogers 283*.

CRUCIFERAE

154. *Arabis hirsuta* var. *glabrata* T. & G. Ferry Co.: stony west bank of Columbia River, 15 miles below the Kettle Falls, below 1290-ft. level, May 11, 1940, *Rogers 425* (!Rollins).

155a. *Arabis holboellii* var. *pendulocarpa* (Nels.) Rollins. Stevens Co.: gravelly granite bank of Columbia River, 6 miles below Gifford, below 1290-ft. level, April 6, 1940, *Rogers et al. 268* (!Rollins); stony east shore of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, April 21, 1940, *Rogers 311* (!Rollins).

155b. *Arabis holboellii* var. *retrofacta* (Grah.) Rydb. Stevens Co.: rocky outcrop, west side of Columbia River, 1 mile below mouth of Flat Creek, above 1290-ft. level, April 26, 1940, *Rogers 336* (!Rollins); sandy east bank of Columbia River, 10 miles above Gifford Ferry, below 1290-ft. level, May 7, 1940, *Rogers 406* (!Rollins).

156. *Arabis sparsiflora* var. *subvillosa* (Wats.) Rollins. Ferry Co.: crevices of rocky outcrop along Columbia River, opposite Gerome, below 1290-ft. level, April 29, 1940, *Rogers 360* (!Rollins); gravelly hill by creek, along west side of San Poil River, 1 mile north of Keller Ferry, below 1290-ft. level, May 20, 1940, *Rogers 477* (!Rollins); along Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 576* (!Rollins). Lincoln Co.:

rocky outcrop at mouth of Spokane River, about 1290-ft. level, May 22, 1940, *Rogers 506* (!Rollins).

157. *Cardamine pennsylvanica* Muhl. Bitter cress. Ferry Co.: moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 566* (!Rollins).

158a. *Descurainia pinnata* subsp. *filipes* (Gray) Detling. Stevens Co.: sandy soil along west side of Columbia River, 6 miles below mouth of Flat Creek, below 1290-ft. level, April 26, 1940, *Rogers 338* (!Rollins).

158b. *Descurainia pinnata* subsp. *Nelsonii* (Rydb.) Detling. Grant Co.: in *Grayia* association in the Grand Coulee, 9 miles south of the Grand Coulee Dam, April 19, 1940, *Rogers 291* (!Rollins).

159. *Draba nemorosa* L. Whitlow grass. Ferry Co.: rocky bank of Columbia River at the Kettle Falls, below 1290-ft. level, April 6, 1940, *Rogers et al. 272* (Rollins); moist banks of Nez Perce Creek at its confluence with Columbia River, below 1290-ft. level, April 28, 1940, *Rogers 353* (!Rollins); on hillside, west bank of Columbia River, 2 miles below Kettle Falls, April 23, 1939, *Sharsmith 4014*.

160. *Draba verna* L. Whitlow grass. Lincoln Co.: sandy bench on south side of Columbia River at Keller Ferry, below 1290-ft. level, April 4, 1940, *Rogers et al. 241* (!Rollins); gravelly hill along south side of Spokane River at its mouth, about 1290-ft. level, April 5, 1940, *Rogers et al. 254* (!Rollins).

161. *Erysimum occidentale* (Wats.) Robinson. Lincoln Co.: dry, gravelly creek bed along Columbia River, 3 miles above Grand Coulee Dam, above 1290-ft. level, May 18, 1940, *Rogers 462* (!Rollins).

162. *Hutchinsia procumbens* (L.) DC. Grant Co. in *Grayia* association in the Grand Coulee, 9 miles south of the Grand Coulee Dam, April 19, 1940, *Rogers 292* (!Rollins).

163. *Idahoia scapigera* (Hook.) Nels. & Macbr. Pepperpod. Ferry Co.: hillside just west of Kettle Falls of the Columbia River, April 22, 1939, *Sharsmith 4013*. Lincoln Co.: gravelly hill along south side of Spokane River at its mouth, about 1290-ft. level, April 5, 1940, *Rogers et al. 253* (!Rollins).

164. *Lepidium dictyotum* Gray. Grant Co.: alkaline soil in the Grand Coulee, 11 miles north of the Dry Falls, May 17, 1940, *Rogers 446* (!Rollins).

165. *Lepidium perfoliatum* L. Peppergrass. No collections made. Abundant in the Upper Grand Coulee.

166. *Lesquerella douglasii* Wats. Bladderpod. Lincoln Co.: grassy ponderosa pine woods, 4½ miles above mouth of Spokane River, above 1290-ft. level, May 22, 1940, *Rogers 498* (!Rollins). Stevens Co.: sandy bank of arid hill bordering north side of Spokane River, several miles above its confluence with Columbia River, May 27, 1939, *Sharsmith 4029*.

167. *Phoenicaulis cheiranthioides* Nutt. Grant Co.: sagebrush association in the Grand Coulee, 20 miles north of the Dry Falls, May 18, 1940, *Rogers 456* (!Rollins). Lincoln Co.: rocky soil, 1 mile south of Columbia River and 4 miles above Grand Coulee Dam, above 1290-ft. level, April 3, 1940, *Rogers et al. 239* (!Rollins); same place, May 19, 1940, *Rogers 468* (!Rollins).

168. *Physaria geyeri* (Hook.) Gray. Double bladderpod. Lincoln Co.: gravelly southeast slope along south shore of Spokane River, 5 miles above its mouth, above 1290-ft. level, April 5, 1940, *Rogers et al.* 250 (!Rollins); same place, May 4, 1940, *Rogers* 387 (!Rollins).

169. *Thelypodium laciniatum* var. *streptanthoides* (Leiberg) Payson. Grant Co.: base of west-facing talus slope in the Grand Coulee, 8 miles north of the Dry Falls, June 3, 1940, *Rogers* 599 (!Rollins).

170. *Thysanocarpus curvipes* Hook. Lacepod. Stevens Co.: gravelly south slope in ravine along east side of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, May 6, 1940, *Rogers* 399 (!Rollins).

CRASSULACEAE

171. *Sedum douglasii* Hook. Stonecrop. Stevens Co.: rocky slope along Columbia River, 13 miles below the Kettle Falls, below 1290-ft. level, June 8, 1940, *Rogers* 627 (!R. T. Clausen).

SAXIFRAGACEAE

172. *Heuchera cylindrica* Dougl. Alum root. Lincoln Co.: rocky hill at mouth of Spokane River, below 1290-ft. level, May 5, 1940, *Rogers* 392 (!Butters).

173. *Lithophragma bulbifera* Rydb. Baby face. Lincoln Co.: sandy bench on south side of Columbia River at Keller Ferry, below 1290-ft. level, April 4, 1940, *Rogers et al.* 243 (!Bacigalupi).

174. *Lithophragma parviflora* (Hook.) Nutt. Baby's breath. Lincoln Co.: gravelly hill along south side of Spokane River at its mouth, below 1290-ft. level, April 18, 1940, *Rogers* 278 (!Bacigalupi). Stevens Co.: gravelly south slope, east side of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, April 21, 1940, *Rogers* 306 (!Bacigalupi); gravelly west slope along east side of Kettle River, 10 miles above its mouth, above 1290-ft. level, April 26, 1940, *Rogers* 340 (!Bacigalupi).

175. *Philadelphus lewisii* Pursh. Syringa; mock orange. Ferry Co.: sandy slope along west side of Columbia River, 11 miles below the Kettle Falls, above 1290-ft. level, May 30, 1940, *Rogers* 558.

176. *Ribes aureum* Pursh. Golden currant. Lincoln Co.: loamy flat, south side of Spokane River, 5 miles above its mouth, below 1290-ft. level, April 20, 1940, *Rogers* 302.

177. *Ribes cereum* Dougl. Squaw currant. Grant Co.: basalt talus slope, ½ mile below the Dry Falls of the Grand Coulee, April 3, 1940, *Rogers et al.* 230.

178. *Ribes lacustre* (Pers.) Poir. Swamp gooseberry; spiny currant. Pend Oreille Co.: near stream along road, 20 miles east of Northport, May 27, 1940, *Rogers* 546.

179. *Ribes viscosissimum* Pursh. Sticky currant. Stevens Co.: dry, rocky hillside along Columbia River, 5 miles above Bossburg, July 8, 1939, *Boner & Wel-dert* 213.

180. *Saxifraga columbiana* Piper. Lincoln Co.: gravelly hill along south side of Spokane River at its mouth, below 1290-ft level, April 18, 1940, *Rogers* 279 (!Bacigalupi). Stevens Co.: rocky north slope on south side of Columbia River, 2 miles below Gerome, below 1290-ft. level, April 22, 1940, *Rogers* 314 (!Baci-

galupi), apparently hybridizing with *Saxifraga rufidula* (Small) J. M. Macoun (Rogers 316); under open forest of *Pinus ponderosa*, banks of Columbia River about 16 miles south of Kettle Falls, April 22, 1939, Sharsmith 4008.

181. *Saxifraga fragosa* Suksd. Stevens Co.: rocky north slope on south side of Columbia River, 2 miles below Gerome, below 1290-ft. level, April 22, 1940, Rogers 315 (!Bacigalupe). This collection consists of plants apparently resulting from hybridization between *Saxifraga columbiana* Piper (Rogers 314) and *Saxifraga rufidula* (Small) J. M. Macoun (Rogers 316).

182. *Saxifraga rufidula* (Small) J. M. Macoun. Stevens Co.: rocky north slope on south side of Columbia River, 2 miles below Gerome, below 1290-ft. level, April 22, 1940, Rogers 316 (!Bacigalupe), apparently hybridizing with *Saxifraga columbiana* Piper (Rogers 314).

183. *Suksdorfia violacea* Gray. Pink cliff saxifrage. Stevens Co.: moist, sandy bank along Flat Creek near its confluence with Columbia River, about 1290-ft. level, May 9, 1940, Rogers 415 (!Bacigalupe).

184. *Tiarella unifoliata* Hook. Lace flower. British Columbia: on moist stream bank, upper East Fork of Sheep Creek, about 5 miles north of International Boundary, near Patterson, vicinity of Trail, June 17, 1939, Sharsmith 4044. Stevens Co.: shady place near spring along Columbia River, 3 miles north of Northport, July 7, 1939, Boner & Weldert 208.

ROSACEAE

185. *Amelanchier cusickii* Fern. Grant Co.: basalt talus slope, $\frac{1}{2}$ mile below the Dry Falls of the Grand Coulee, April 3, 1940, Rogers et al. 231 (!Wiegand). Stevens Co.: open, grassy slope, Kettle Falls, June 22, 1939, Boner & Weldert 172; west side of Columbia River, 9 miles below Northport, above 1290-ft. level, April 24, 1940, Rogers 326 (!Wiegand).

186. *Amelanchier florida* Lindl. Service berry. Grant Co.: base of talus slope in the Grand Coulee, 12 miles north of the Dry Falls, April 19, 1940, Rogers 288 (!Wiegand).

187. *Crataegus douglasii* Lindl. Hawthorn. Lincoln Co.: grassy slope, south side of Columbia River, 9 miles above Grand Coulee Dam, above 1290-ft. level, May 3, 1940, Rogers 385 (!Rehder).

188. *Fragaria bracteata* Heller. Stevens Co.: clearing in woods along east side of Columbia River, near the Canadian boundary, above 1290-ft. level, May 9, 1940, Rogers 413.

189. *Fragaria virginiana* Duch. Stevens Co.: open woods, north slope along south side of Columbia River, 2 miles east of Gerome, below 1290-ft. level, April 22, 1940, Rogers 320 (!McVaugh).

190. *Geum macrophyllum* var. *perincisum* (Rydb.) Raup. Ferry Co.: shaded, moist woods, 1 mile northwest of Growden Guard Station, along Sherman Creek, 15 miles west of Kettle Falls, July 25, 1939, Boner & Weldert 239; moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, Rogers 559 (!McVaugh).

191. *Geum triflorum* var. *ciliatum* (Pursh) Fassett. Old man's whiskers; tassels. Ferry Co.: rocky hills, 3 miles north of Gerome, above 1290-ft. level,

June 11, 1940, *Rogers 653* (!McVaugh).

192. *Holodiscus discolor* var. *ariaefolius* (Sm.) Aschers. & Graebn. Mountain spray. Stevens Co.: sandy slope along Columbia River, 4 miles below Northport, about 1290-ft. level, June 10, 1940, *Rogers 646* (!Rehder).

193. *Physocarpus malvaceus* Greene. Ninebark. Stevens Co.: rocky hillside along west side of Columbia River, 3 miles below mouth of Flat Creek, about 1290-ft. level, May 10, 1940, *Rogers 419* (!Rehder).

194. *Potentilla anserina* var. *sericea* Hayne. Silverweed. Grant Co.: along irrigation flume in the Grand Coulee, 8 miles north of the Dry Falls, May 17, 1940, *Rogers 441* (!Keck).

195. *Potentilla argentea* L. Silvery cinquefoil. Stevens Co.: dry, sandy, gravelly bank along Columbia River, 6 miles north of Bossburg, July 8, 1939, *Boner & Weldert 212*.

196. *Potentilla arguta* subsp. *convallaria* (Rydb.) Keck. Lincoln Co.: north slope at mouth of Spokane River, below 1290-ft. level, May 22, 1940, *Rogers 500* (!Keck).

197. *Potentilla flabelliformis* Lehm. Lincoln Co.: north slope at mouth of Spokane River, below 1290-ft. level, May 22, 1940, *Rogers 499* (!Keck).

198. *Potentilla gracilis* subsp. *nuttallii* (Lehm.) Keck. Grant Co.: in the Grand Coulee, 14 miles north of the Dry Falls, June 3, 1940, *Rogers 603* (!Keck).

199. *Prunus emarginata* (Dougl.) Walp. Wild cherry. Ferry Co.: half-shaded slope near confluence of Sherman Creek with Columbia River, about 2 miles below Kettle Falls, July 4, 1939, *Boner & Weldert 200*.

199a. *Prunus emarginata* var. *mollis* (Dougl.) Brewer. Stevens Co.: gravelly slope, east side of Columbia River, 10 miles above mouth of Spokane River, above 1290-ft. level, April 21, 1940, *Rogers 312* (!Rehder).

200. *Prunus virginiana* var. *melanocarpa* (A. Nels.) Sarg. Chokecherry. Stevens Co.: sandy east shore of Columbia River at Marcus, below 1290-ft. level, May 8, 1940, *Rogers 410* (!Rehder).

201. *Purshia tridentata* (Pursh) DC. Antelope brush. Lincoln Co.: sandy hills, south side of Columbia River, 6 miles above Grand Coulee Dam, above 1290-ft. level, May 2, 1940, *Rogers 381* (!Rehder).

202. *Rosa gymnocarpa* Nutt. Woodland rose. Stevens Co.: sandy clearing in ponderosa pine woods along Columbia River, 10 miles below Northport, above 1290-ft. level, May 28, 1940, *Rogers 552* (!Rehder); in limestone hills above Columbia River, 10 miles south of Northport, May 28, 1939, *Sharsmith 4039*.

203. *Rosa spaldingii* Crepin. Wild Rose. Stevens Co.: in limestone hills above banks of Columbia River, 10 miles south of Northport, May 28, 1939, *Sharsmith 4040*.

204. *Rosa ultramontana* (Wats.) Heller. Wild rose. Lincoln Co.: sandy flat along dry creek along Columbia River, 3 miles above Grand Coulee Dam, about 1290-ft. level, May 19, 1940, *Rogers 466* (!Rehder). Stevens Co.: sandy bench along Spokane River, 10 miles above its mouth, below 1290-ft. level, May 21, 1940, *Rogers 480* (!Rehder); open moist roadside, Kettle Falls, June 20, 1939, *Boner & Weldert 170*.

205. *Rubus idaeus* var. *peramoenus* (Greene) Fern. Red raspberry. Stevens Co.: along road through woods along Columbia River, just west of Flat Creek, above 1290-ft. level, May 29, 1940, *Rogers 556* (!Rehder).

206. *Rubus parviflorus* var. *grandiflorus* Farw. Thimbleberry. Ferry Co.: moist ground among shrubs along Columbia River, 8 miles north of Inchelium, about 1290-ft. level, May 25, 1940, *Rogers 537* (!Rehder).

207. *Spiraea betulifolia* Pall. White meadowsweet; white spiraea. Stevens Co.: sandy flat along Columbia River, 13 miles above Gifford, about 1290-ft. level, May 24, 1940, *Rogers 528* (!McVaugh).

208. *Spiraea menziesii* Hook. Stevens Co.: shaded thicket along Columbia River, 3 miles south of Northport, July 8, 1939, *Boner & Weldert 210*.

LEGUMINOSAE

209. *Astragalus arrectus* Gray. Lincoln Co.: grassy slope along Columbia River, 9 miles above Grand Coulee Dam, above 1290-ft. level, May 19, 1940, *Rogers 470*.

210. *Astragalus convallarius* Greene. Ferry Co.: clay bank of road, along Columbia River, 1 mile north of Inchelium, just above 1290-ft. level, June 11, 1940, *Rogers 652*.

211. *Astragalus glareosus* Dougl. Stevens Co.: in loose, dry soil of roadbank by Spokane River about 8 miles above its confluence with Columbia River, April 22, 1939, *Sharsmith 4006*.

212. *Astragalus lentiginosus* Dougl. Dotted milk-vetch. Grant Co.: roadside in sagebrush association in the Grand Coulee, 11 miles north of the Dry Falls, May 17, 1940, *Rogers 448*.

213. *Astragalus miser* Dougl. Ferry Co.: in sand and cobbles of dry flood channel of Columbia River, 2 miles south of Kettle Falls, April 23, 1939, *Sharsmith 4015*. Stevens Co.: rocky flat along Columbia River near Hunters Ferry, June 28, 1939, *Boner & Weldert 179*; sandy, wooded upper beach of Columbia River at Marcus, below 1290-ft. level, May 25, 1940, *Rogers 544*.

214. *Astragalus purshii* Dougl. Grant Co.: sagebrush association in the Grand Coulee, 20 miles north of the Dry Falls, May 18, 1940, *Rogers 455*. Lincoln Co.: gravelly southeast slope along south shore of Spokane River, 5 miles above its mouth, above 1290-ft. level, May 4, 1940, *Rogers 388*.

215. *Astragalus sclerocarpus* Gray. Stevens Co.: sandy slope along Columbia River, 10 miles above Gifford, about 1290-ft. level, May 24, 1940, *Rogers 527*; dry, loose, steep slope of road cut above margin of Columbia River, 3 miles south of Kettle Falls, May 27, 1939, *Sharsmith 4035*.

216. *Astragalus spauldingii* Gray. Grant Co.: in sagebrush in the Grand Coulee, 20 miles north of the Dry Falls, June 12, 1940, *Rogers 668*.

217. *Astragalus stenophyllus* T. & G. Grant Co.: in greasewood in the Grand Coulee, 7 miles north of the Dry Falls, June 2, 1940, *Rogers 592*.

218. *Lotus americanus* (Nutt.) Bisch. Spanish clover. Ferry Co.: open, springy, gravelly spot, $\frac{1}{4}$ miles west of Columbia River, Kettle Falls, June 17, 1939, *Boner & Weldert 153*.

219. *Lupinus ornatus* Dougl. Lupine. Stevens Co.: dry, sandy roadside, Kettle Falls, July 10, 1939, *Boner & Weldert* 214.

220. *Lupinus ostiofluminis* Smith. Lincoln Co.: base of hill, south side of Spokane River at its mouth, below 1290-ft. level, May 5, 1940, *Rogers* 390 (!Smith). Type collection.

221. *Medicago lupulina* L. Black medic. Ferry Co.: open, springy, gravelly spot, ¼ mile west of Columbia River, Kettle Falls, June 17, 1939, *Boner & Weldert* 154.

222. *Oxytropis columbiana* St. John. Ferry Co.: stony west bank of Columbia River, 15 miles below the Kettle Falls, below 1290-ft. level, May 11, 1940, *Rogers* 426; sandy west shore of Columbia River at Inchelium, below 1290-ft. level, May 25, 1940, *Rogers* 529. Stevens Co.: rocky point on Columbia River, 2 miles south of Gifford, June 28, 1939, *Boner & Weldert* 180; stony east shore of Columbia River, 1 mile above mouth of Spokane River, below 1290-ft. level, April 20, 1940, *Rogers* 298; stony bar along south side of Columbia River at Jerome, below 1290-ft. level, April 22, 1940, *Rogers* 318; stony east shore of Columbia River, 1 mile above mouth of Spokane River, below 1290-ft. level, May 6, 1940, *Rogers* 394; stony east shore of Columbia River at Marcus, below 1290-ft. level, May 8, 1940, *Rogers* 409; stony east shore of Columbia River at Northport, below 1290-ft. level, May 9, 1940, *Rogers* 414; stony east shore of Columbia River, 6 miles below Gifford, below 1290-ft. level, May 24, 1940, *Rogers* 520; stony shore of Columbia River at Marcus, below 1290-ft. level, May 25, 1940, *Rogers* 543.

223. *Trifolium cyathiferum* Lindl. Ferry Co.: open, springy, gravelly spot, ¼ mile west of Columbia River, Kettle Falls, June 17, 1939, *Boner & Weldert* 152.

224. *Trifolium microcephalum* Pursh. Ferry Co.: open, springy, gravelly spot, ¼ mile west of Columbia River, Kettle Falls, June 17, 1939, *Boner & Weldert* 150.

225. *Trifolium variegatum* Nutt. Ferry Co.: open, springy, gravelly spot, ¼ mile west of Columbia River, Kettle Falls, June 17, 1939, *Boner & Weldert* 151.

226. *Vicia americana* var. *truncata* (Nutt.) Brewer. American vetch. Ferry Co.: sandy flat opposite Marcus, along Columbia River, below 1290-ft. level, June 10, 1940, *Rogers* 649.

GERANIACEAE

227. *Erodium cicutarium* (L.) L'Hér. Filaree; alfilaria. Stevens Co.: gravelly hillside on north side of Spokane River near its mouth, below 1290-ft. level, April 21, 1940, *Rogers* 304. Introduced from Eurasia.

228. *Geranium carolinianum* L. Carolina geranium. Ferry Co.: open, springy, gravelly spot, ¼ mile west of Columbia River, Kettle Falls, June 17, 1939, *Boner & Weldert* 155.

229. *Geranium viscosissimum* Fisch. & Mey. Purple geranium. Stevens Co.: open ponderosa pine woods along Columbia River, 3 miles above mouth of Spokane River, below 1290-ft. level, May 6, 1940, *Rogers* 396.

OXALIDACEAE

230. *Oxalis stricta* L. Sheep-sorrel. Stevens Co.: rocky railroad bed along Columbia River about 4 miles north of Northport, July 7, 1939, *Boner & Weldert* 207. Not previously reported from Washington.

LINACEAE

231. *Linum lewisii* Pursh. Blue flax. Lincoln Co.: sandy bench at mouth of Spokane River, above 1290-ft. level, June 1, 1940, *Rogers* 582.

EUPHORBACEAE

232. *Euphorbia glyptosperma* Engelm. Ridge-seeded spurge. Lincoln Co.: sandy bench at Keller Ferry, about 1290-ft. level, June 12, 1940, *Rogers* 663.

ANACARDIACEAE

233. *Rhus glabra* L. Sumac. No collections made. Noted along San Poil River, 10 miles above its mouth; along Spokane River, 13 miles above its mouth; and intermittently along Columbia River from mouth of Spokane River nearly to Northport.

234. *Toxicodendron radicans* (L.) Kuntze. Poison ivy. Stevens Co.: sandy bank of Columbia River, 6 miles above Northport, above 1290-ft. level, June 9, 1940, *Rogers* 640 (!Barkley).

CELASTRACEAE

235. *Pachystima myrsinites* (Pursh) Raf. Mountain lover. Stevens Co.: woods at Crown Creek bridge, 11 miles below Northport, above 1290-ft. level, April 25, 1940, *Rogers* 329.

ACERACEAE

236. *Acer glabrum* var. *douglasii* (Hook.) Dipp. Mountain maple. Stevens Co.: bank of small creek, west side of Columbia River, 9 miles below Northport, above 1290-ft. level, April 25, 1940, *Rogers* 327. (!Rehder).

RHAMNACEAE

237. *Ceanothus sanguineus* Pursh. Buckbrush. Stevens Co.: wooded east bank of Columbia River, 1 mile below the Kettle Falls, above 1290-ft. level, May 8, 1940, *Rogers* 407 (!Rehder).

238. *Ceanothus velutinus* Dougl. Deer brush; sticky laurel. Stevens Co.: dry, sandy roadside, ½ mile from Columbia River, Kettle Falls, July 10, 1939, *Boner & Weldert* 218; ponderosa pine woods, 2 miles west of town of Meyers Falls, above 1290-ft. level, May 25, 1940, *Rogers* 542 (!Rehder).

MALVACEAE

239. *Iliamna rivularis* (Dougl.) Greene. Wild hollyhock. Stevens Co.: damp, grassy place along Colville River near its confluence with Columbia River, July 5, 1939, *Boner & Weldert* 206.

240. *Sphaeralcea munroana* (Dougl.) Spach. Salmon globe mallow. Grant Co.: in the Grand Coulee, 7 miles north of the Dry Falls, June 2, 1940, *Rogers* 594.

VIOLACEAE

241. *Viola adunca* Smith. Ferry Co.: stony west bank of Columbia River, 15 miles below the Kettle Falls, below 1290-ft. level, April 27, 1940, *Rogers* 349

(!Baker). Stevens Co.: stony east shore of Columbia River, 1 mile above mouth of Spokane River, below 1290-ft. level, April 20, 1940, *Rogers 299* (!Baker); stony west shore of Columbia River at mouth of Flat Creek, below 1290-ft. level, April 25, 1940, *Rogers 332* (!Baker).

241a. *Viola adunca* f. *glabra* (Brain.) G. N. Jones. Stevens Co.: among river cobbles of dry flood channel of Columbia River, 16 miles south of Kettle Falls, April 22, 1939, *Sharsmith 4011*.

242. *Viola glabella* Nutt. Tall yellow violet. Ferry Co.: moist ground along stream through woods, 12 miles west of Gerome, above 1290-ft. level, April 29, 1940, *Rogers 363* (!Baker).

243. *Viola praemorsa* var. *major* Hook. Ferry Co.: grassy slope along Columbia River, 10 miles north of Hunters Ferry, above 1290-ft. level, April 28, 1940, *Rogers 350* (!Baker).

244. *Viola vallicola* A. Nels. Ferry Co.: ponderosa pine woods, 2 miles north of Hunters Ferry, above 1290-ft. level, April 29, 1940, *Rogers 357* (!Baker).

LOASACEAE

245. *Mentzelia albicaulis* Dougl. Lincoln Co.: sandy hill along south side of Columbia River, 3 miles above Grand Coulee Dam, about 1290-ft. level, May 2, 1940, *Rogers 377*.

246. *Mentzelia laevicaulis* (Dougl.) T. & G. Rough blazing-star; stickleaf. Ferry Co.: dry, sandy roadside, 4 miles south of Orient, August 2, 1939, *Boner & Weldert 261*; dry, sandy roadside, 2 miles south of Boyds, August 2, 1939, *Boner & Weldert 262*.

CACTACEAE

247. *Opuntia polyacantha* Haw. Prickly pear. No collections made. Noted in Stevens County at mouth of Flat Creek and near the mouth of the Spokane River, and in Ferry County at the Kettle Falls.

ELEAGNACEAE

248. *Shepherdia canadensis* Nutt. Canada buffalo berry. Stevens Co.: wooded west slope on east side of Kettle River, 2 miles above its mouth, above 1290-ft. level, April 6, 1940, *Rogers et al. 270* (!Rehder); on canyon wall of East Fork of Sheep Creek, near Frontier, 2 miles south of International Boundary, June 17, 1939, *Sharsmith 4042*.

ONAGRACEAE

249. *Circaea alpina* var. *pacifica* (Aschers. & Magn.) M. E. Jones. Enchanter's nightshade. Ferry Co.: shaded, moist woods along Sherman Creek, 15 miles west of Kettle Falls, 1 mile northwest of Growden Guard Station, July 25, 1939, *Boner & Weldert 238*; moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 567* (!Munz).

250. *Clarkia pulchella* Pursh. Wild clarkia; deer horn; ragged robin. Lincoln Co.: sandy hill along south side of Columbia River, 3 miles above Grand Coulee Dam, about 1290-ft. level, May 19, 1940, *Rogers 464* (!Munz); sandy bench along south side of Columbia River at Keller Ferry, below 1290-ft. level, May 19, 1940, *Rogers 472* (!Munz). Stevens Co.: sandy flat, 2 miles north of Gifford, below 1290-ft. level, June 8, 1940, *Rogers 625* (!Munz).

251. *Epilobium adenocaulon* Haussk. Tall cottonweed. Stevens Co.: wet meadow along Colville River near its confluence with Columbia River, July 11, 1939, *Boner & Weldert* 224.

252. *Epilobium angustifolium* L. Fireweed. Grant Co.: along irrigation flume in the Grand Coulee, 7 miles north of the Dry Falls, June 13, 1940, *Rogers* 670 (!Munz).

253. *Epilobium latifolium* L. Alpine fireweed. Stevens Co.: stony east shore of Columbia River at Northport, below 1290-ft. level, May 9, 1940, *Rogers* 411 (!Munz).

254. *Gayophytum diffusum* T. & G. Ferry Co.: rocky, ponderosa pine-covered hills, 3 miles north of Hellgate, above 1290-ft. level, June 12, 1940, *Rogers* 661 (!Munz).

255. *Gayophytum ramosissimum* T. & G. Stevens Co.: gravelly, open roadside, Kettle Falls, June 30, 1939, *Boner & Weldert* 183.

256. *Oenothera andina* Nutt. Grant Co.: shallow, rocky soil in the Grand Coulee, 7 miles north of the Dry Falls, May 17, 1940, *Rogers* 438 (!Munz).

257. *Oenothera pallida* Lindl. Lincoln Co.: sandy hill along south side of Columbia River, 3 miles above the Grand Coulee Dam, above 1290-ft. level, June 5, 1940, *Rogers* 614 (!Munz).

258. *Oenothera strigosa* (Rydb.) Mack. & Bush. Ferry Co.: shaded, moist bank of Nancy Creek, 2 miles north of Kettle Falls, June 20, 1939, *Boner & Weldert* 168.

ARALIACEAE

259. *Aralia nudicaulis* L. Wild sarsaparilla. Stevens Co.: in dense woods on South Fork of Sheep Creek, near Frontier, May 28, 1939, *Sharsmith* 4038.

UMBELLIFERAE

260. *Leptotaenia dissecta* var. *multifida* (Nutt.) Jeps. Lincoln Co.: sandy bench at Keller Ferry, south side of Columbia River, about 1290-ft. level, May 19, 1940, *Rogers* 471 (!Mathias & Constance).

261. *Lomatium ambiguum* (Nutt.) C. & R. Stevens Co.: sandy bench along Spokane River near its mouth, about 1290-ft. level, June 13, 1940, *Rogers* 671 (!Mathias & Constance).

262. *Lomatium geyeri* (Wats.) C. & R. Ferry Co.: stony west bank of Columbia River, 15 miles below the Kettle Falls, below 1290-ft. level, April 27, 1940, *Rogers* 348 (!Mathias & Constance). Lincoln Co.: sandy bench on south side of Columbia River at Keller Ferry, below 1290-ft. level, April 4, 1940, *Rogers et al.* 247 (!Mathias & Constance).

263. *Lomatium grayi* C. & R. Stevens Co.: stony east shore of Columbia River, 1 mile above mouth of Spokane River, below 1290-ft. level, May 6, 1940, *Rogers* 395 (!Mathias & Constance).

264. *Lomatium macrocarpum* (H. & A.) C. & R. Grant Co.: dry, clay soil along alkaline pond in the Grand Coulee, 8 miles north of the Dry Falls, June 3, 1940, *Rogers* 598 (!Mathias & Constance). Lincoln Co.: rocky soil, 1 mile south of Columbia River and 4 miles up river from Grand Coulee Dam, above 1290-ft. level, June 5, 1940, *Rogers* 616 (!Mathias & Constance).

265. *Lomatium simplex* var. *leptophyllum* (Hook.) Mathias. Lincoln Co.: sandy bench at mouth of Spokane River, above 1290-ft. level, May 31, 1940, *Rogers* 579 (!Mathias & Constance).

266. *Osmorhiza nuda* Torr. Sweet cicely. Ferry Co.: shaded, moist woods, 1 mile northwest of Growden Guard Station, along Sherman Creek, 15 miles west of Kettle Falls, July 25, 1939, *Boner & Weldert* 240; moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers* 568 (!Mathias & Constance).

267. *Pteryxia terebinthina* (Hook.) C. & R. Ferry Co.: sandy hills along Columbia River, about 1 mile north of Hellgate, above 1290-ft. level, June 12, 1940, *Rogers* 660 (!Mathias & Constance).

CORNACEAE

268. *Cornus canadensis* L. Bunchberry. Stevens Co.: brushy woods along Columbia River, 6 miles above Northport, above 1290-ft. level, June 9, 1940, *Rogers* 642.

269. *Cornus pubescens* Nutt. Dogwood. Ferry Co.: by spring along west side of Columbia River opposite Marcus, below 1290-ft. level, May 10, 1940, *Rogers* 420 (!Rehder).

ERICACEAE

270. *Arctostaphylos uva-ursi* (L.) Spreng. Bearberry; kinnikinnick. Stevens Co.: stony east shore of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, April 21, 1940, *Rogers* 309.

271. *Pyrola chlorantha* Sw. Green wintergreen. Stevens Co.: moist, open woods near Colville River, 1 mile from its confluence with Columbia River, June 19, 1939, *Boner & Weldert* 162.

PRIMULACEAE

272. *Dodecatheon conjugens* Greene. Birdbill; shooting star. Grant Co.: in sagebrush in the Grand Coulee, about 8 miles north of the Dry Falls, April 3, 1940, *Rogers et al.* 235 (!Mason), growing with the more numerous white form (*Rogers et al.* 236); same place and date, *Rogers et al.* 236 (!Mason). Lincoln Co.: sandy bench on south side of Columbia River at Keller Ferry, below 1290-ft. level, April 4, 1940, *Rogers et al.* 246 (!Mason); gravelly hill along south side of Spokane River at its mouth, about 1290-ft. level, April 5, 1940, *Rogers et al.* 255 (!Mason), white-flowered form, growing with pink-flowered form (*Rogers et al.* 256); same place and date, *Rogers et al.* 256 (!Mason), pink-flowered form.

273. *Dodecatheon pauciflorum* var. *cusickii* (Greene) H. L. Mason. Birdbill; shooting star. Lincoln Co.: gravelly hill along south side of Spokane River at its mouth, below 1290-ft. level, April 18, 1940, *Rogers* 277 (!Mason). Stevens Co.: rocky north slope on south side of Columbia River, 2 miles below Gerome, below 1290-ft. level, April 22, 1940, *Rogers* 313 (!Mason).

274. *Lysimachia ciliata* L. Fringed loosestrife. Stevens Co.: wet meadow near Colville River, near its confluence with Columbia River, July 11, 1939, *Boner & Weldert* 222.

275. *Lysimachia thyrsiflora* L. Tufted loosestrife. Stevens Co.: wet meadow near Colville River near its confluence with Columbia River, June 23, 1939, *Boner & Weldert* 223.

GENTIANACEAE

276. *Frasera nitida* var. *albicaulis* (Dougl.) Card. Ferry Co.: open pine woods along west side of Columbia River, 10 miles below the Kettle Falls, below 1290-ft. level, May 11, 1940, *Rogers* 424 (!R. T. Clausen). Stevens Co.: open, sandy field, 3 miles south of Kettle Falls, July 11, 1939, *Boner & Weldert* 221.

APOCYNACEAE

277. *Apocynum cannabinum* L. Indian hemp. Stevens Co.: open, rocky bank of Columbia River, 1 mile south of Kettle Falls, June 21, 1939, *Boner & Weldert* 171.

278. *Apocynum medium* var. *floribundum* (Greene) Woods. Stevens Co.: open, dry, gravelly place between Colville River and Kettle Falls, June 19, 1939, *Boner & Weldert* 164; sandy slope along creek along Spokane River, 13 miles above its mouth, above 1290-ft. level, May 21, 1940, *Rogers* 485.

279. *Apocynum pumilum* (Gray) Greene. Small dogbane. Stevens Co.: sandy flat along Columbia River, 11 miles below the Kettle Falls, below 1290-ft. level, June 8, 1940, *Rogers* 629.

279a. *Apocynum pumilum* var. *rhomboideum* (Greene) Bég. & Bel. Stevens Co.: sandy flat along Columbia River, 12 miles below the Kettle Falls, below 1290-ft. level, June 8, 1940, *Rogers* 628.

ASCLEPIADACEAE

280. *Asclepias speciosa* Torr. Milkweed; purple-top. Grant Co.: along irrigation flume in the Grand Coulee, 7 miles north of the Dry Falls, June 13, 1940, *Rogers* 669.

POLEMONIACEAE

281. *Collomia linearis* Nutt. Ferry Co.: along Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers* 574 (!Mason). Lincoln Co.: sandy hill along south side of Columbia River, 3 miles above Grand Coulee Dam, about 1290-ft. level, May 2, 1940, *Rogers* 383 (!Mason).

282. *Collomia grandiflora* Dougl. Ferry Co.: gravelly south slope along Columbia River at Keller Ferry, below 1290-ft. level, May 20, 1940, *Rogers* 476 (!Mason). Stevens Co.: sandy field above Columbia River, 2 miles south of Gifford, June 28, 1939, *Boner & Weldert* 182.

283. *Gilia aggregata* (Pursh) Spreng. Fox fire. Lincoln Co.: grassy north slope at mouth of Spokane River, below 1290-ft. level, May 22, 1940, *Rogers* 504 (!Mason). Stevens Co.: sandy bank of Columbia River at mouth of Onion Creek, about 1290-ft. level, June 9, 1940, *Rogers* 639 (!Mason).

284. *Gilia minutiflora* Benth. Grant Co.: in the Grand Coulee, 7 miles north of the Dry Falls, June 2, 1940, *Rogers* 596 (!Mason).

285. *Gilia sinuata* Benth. Lincoln Co.: sandy hill along south side of Columbia River, 3 miles above Grand Coulee Dam, about 1290-ft. level, May 2, 1940, *Rogers* 379 (!Mason).

286. *Linanthus pharnaceoides* (Benth.) Greene. Grant Co.: base of west-facing talus slope in the Grand Coulee, 8 miles north of the Dry Falls, June 3, 1940, *Rogers 601* (!Mason). Stevens Co.: gravelly, open roadside, Kettle Falls, June 30, 1939, *Boner & Weldert 184*; sandy bench along creek along Spokane River, 13 miles above its mouth, above 1290-ft. level, May 21, 1940, *Rogers 486* (!Mason).

287. *Linanthus septentrionalis* Mason. Grant Co.: shallow, rocky soil in the Grand Coulee, 7 miles north of the Dry Falls, May 17, 1940, *Rogers 440* (!Mason).

288. *Phlox douglasii* Hook. Lincoln Co.: rocky, sandy slopes, $\frac{1}{2}$ mile south of Columbia River, about 3 miles down river from Keller Ferry, above 1290-ft. level, April 4, 1940, *Rogers et al. 249* (!Wherry).

289. *Phlox gracilis* (Dougl.) Greene. Ferry Co.: loamy bench along Columbia River, 1 mile below mouth of Kettle River, above 1290-ft. level, April 26, 1940, *Rogers 343* (!Mason). Lincoln Co.: sandy bench on south side of Columbia River at Keller Ferry, below 1290-ft. level, April 4, 1940, *Rogers et al. 240* (!Mason); stony south shore of Spokane River, 6 miles above its mouth, below 1290-ft. level, May 21, 1940, *Rogers 490* (!Mason). Stevens Co.: sandy bench along west shore of Columbia River at mouth of Flat Creek, below 1290-ft. level, April 25, 1940, *Rogers 333* (!Mason); open woods along east side of Kettle River, 3 miles above its mouth, above 1290-ft. level, May 10, 1940, *Rogers 421* (!Mason).

290. *Phlox longifolia* Nutt. Ferry Co.: base of hill along Columbia River, 5 miles north of Gerome, about 1290-ft. level, April 29, 1940, *Rogers 358*. Lincoln Co.: grassy slope, south side of Columbia River, 9 miles above Grand Coulee Dam, above 1290-ft. level, May 3, 1940, *Rogers 384*.

291. *Phlox rigida* Benth. Stevens Co.: stony east shore of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, April 21, 1940, *Rogers 310*.

292. *Phlox speciosa* Pursh. Lincoln Co.: gravelly northwest slope along south side of Spokane River, 5 miles above its mouth, about 1290-ft. level, April 20, 1940, *Rogers 300* (!Wherry). Stevens Co.: north slope in grassy ravine along east side of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, May 6, 1940, *Rogers 398* (!Wherry).

293. *Polemoniella micrantha* (Benth.) Heller. Lincoln Co.: sandy bench on south side of Columbia River at Keller Ferry, below 1290-ft. level, April 4, 1940, *Rogers et al. 242* (!Mason).

294. *Polemonium humile* R. & S. Ferry Co.: damp, sandy thicket along Kettle River, 1 mile south of Boyds, July 3, 1939, *Boner & Weldert 197*.

HYDROPHYLLACEAE

295. *Hesperochiron lasianthus* (Greene) St. John. Grant Co.: in *Grayia* association in the Grand Coulee, 9 miles south of the Grand Coulee Dam, April 19, 1940, *Rogers 290* (!Constance).

296. *Hesperochiron pumilus* (Dougl.) Porter. Ferry Co.: ponderosa pine woods, 13 miles west of Gerome, above 1290-ft. level, April 29, 1940, *Rogers 364* (!Constance).

297. *Hydrophyllum capitatum* Dougl. Woolen breeches; cat's breeches. Lincoln Co.: gravelly hill along south side of Spokane River at its mouth, below 1290-ft. level, April 18, 1940, *Rogers 280* (!Constance). Stevens Co.: west side of Columbia River, 9 miles below Northport, above 1290-ft. level, April 25, 1940, *Rogers 328* (!Constance).

298. *Nemophila breviflora* Gray. Ferry Co.: under shrubs along creek, 3 miles north of Gerome, May 12, 1940, *Rogers 431* (!Constance).

299. *Phacelia leucophylla* Torr. Lincoln Co.: sandy bench at Keller Ferry, south side of Columbia River, about 1290-ft. level, May 19, 1940, *Rogers 475* (!Constance). Stevens Co.: stony west shore of Columbia River, at mouth of Flat Creek, below 1290-ft. level, May 10, 1940, *Rogers 418* (!Constance).

300. *Phacelia linearis* (Pursh) Holz. Ferry Co.: sandy slope along north side of Columbia River at Keller Ferry, below 1290-ft. level, April 30, 1940, *Rogers 368* (!Constance).

301. *Phacelia ramosissima* Dougl. Grant Co.: gravelly soil, base of west-facing talus slope in the Grand Coulee, 8 miles north of the Dry Falls, June 3, 1940, *Rogers 600* (!Constance).

BORAGINACEAE

302. *Amsinckia ?tessellata* Gray. Ferry Co.: sandy slope along north side of Columbia River at Keller Ferry, below 1290-ft. level, April 30, 1940, *Rogers 367* (?Johnston). The specimens are too immature to be identified with certainty.

303. *Cryptantha celosioides* Eastwood. Lincoln Co.: dry, gravelly creek bed along Columbia River, 3 miles above Grand Coulee Dam, above 1290-ft. level, June 5, 1940, *Rogers 613* (!Johnston).

304. *Cryptantha pterocarya* (Torr.) Greene. Grant Co.: granite rocks in the Grand Coulee, 8 miles south of Grand Coulee Dam, May 18, 1940, *Rogers 458* (!Johnston). Lincoln Co.: sandy hill along south side of Columbia River, 3 miles above Grand Coulee Dam, about 1290-ft. level, May 2, 1940, *Rogers 378* (!Johnston).

305. *Cryptantha watsoni* (Gray) Greene. Grant Co.: west-facing talus slope in the Grand Coulee, 8 miles north of the Dry Falls, May 17, 1940, *Rogers 452* (!Johnston). Ferry Co.: dry, sandy roadside, 2 miles north of Boyds, July 3, 1939, *Boner & Weldert 195*.

306. *Hackelia ciliata* (Dougl.) Johnston. Lincoln Co.: dry, gravelly creek bed along Columbia River, 3 miles above Grand Coulee Dam, above 1290-ft. level, May 19, 1940, *Rogers 463* (!Johnston). Stevens Co.: among boulders in sandy ground of bank of Spokane River, about 6 miles above its confluence with Columbia River, May 27, 1939, *Sharsmith 4028*.

307. *Lappula echinata* Gillib. Ferry Co.: open, moist bank of Nancy Creek, 2 miles north of Kettle Falls, June 20, 1939, *Boner & Weldert 165*.

308. *Lappula redowskii* (Hornem.) Greene. Grant Co.: shallow rocky soil in the Grand Coulee, 7 miles north of the Dry Falls, May 17, 1940, *Rogers 443* (!Johnston). Stevens Co.: open ground adjacent to Colville River near its confluence with Columbia River, May 27, 1939, *Sharsmith 4037*.

309. *Lithospermum ruderale* Dougl. Ferry Co.: base of hill along Columbia

River, 5 miles north of Jerome, about 1290-ft. level, April 29, 1940, *Rogers* 359 (!Johnston).

310. *Mertensia longiflora* Greene. Bluebell. Grant Co.: grassy hills, south side of Columbia River, 1 mile up river from Grand Coulee Dam, above 1290-ft. level, April 3, 1940, *Rogers et al.* 238 (!Johnston). Lincoln Co.: sandy bench on south side of Columbia River at Keller Ferry, below 1290-ft. level, April 4, 1940, *Rogers et al.* 244 (!Johnston), growing adjacent to *Mertensia oblongifolia* (Nutt.) G. Don (*Rogers et al.* 245); gravelly northwest slope along south side of Spokane River, 4 miles above its mouth, above 1290-ft. level, April 5, 1940, *Rogers et al.* 251 (!Johnston). Stevens Co.: sandy north slope along east side of Columbia River, 6 miles above mouth of Spokane River, below 1290-ft. level, April 5, 1940, *Rogers et al.* 262 (!Johnston).

311. *Mertensia oblongifolia* (Nutt.) G. Don. Lincoln Co.: sandy bench on south side of Columbia River at Keller Ferry, below 1290-ft. level, April 4, 1940, *Rogers et al.* 245 (!Johnston), growing adjacent to *Mertensia longiflora* Greene (*Rogers et al.* 244).

312. *Mertensia paniculata* var. *borealis* (Macbr.) Williams. Ferry Co.: moist banks of Nez Perce Creek at its confluence with Columbia River at Hunters Ferry, below 1290-ft. level, May 11, 1940, *Rogers* 427 (!Johnston).

313. *Myosotis stricta* Link. Stevens Co.: open ponderosa pine woods along east side of Columbia River, 1 mile below the Kettle Falls, above 1290-ft. level, May 8, 1940, *Rogers* 408 (!Johnston).

314. *Pectocarya penicillata* (Hook. & Arn.) A. DC. Grant Co.: in sagebrush in the Grand Coulee, 8 miles north of the Dry Falls, April 19, 1940, *Rogers* 285 (!Johnston).

315. *Plagiobothrys cusickii* (Greene) Johnston. Grant Co.: border of alkaline pond in the Grand Coulee, 7 miles north of the Dry Falls, June 12, 1940, *Rogers* 664 (!Johnston).

316. *Plagiobothrys tenellus* (Nutt.) Gray. Ferry Co.: sandy slope along Columbia River opposite Jerome, below 1290-ft. level, April 29, 1940, *Rogers* 362 (!Johnston). Stevens Co.: gravelly flat at mouth of Spokane River, below 1290-ft. level, May 6, 1940, *Rogers* 393 (!Johnston).

VERBENACEAE

317. *Verbena hastata* L. Stevens Co.: damp, grassy place along Colville River near its confluence with Columbia River, July 5, 1939, *Boner & Weldert* 202.

LABIATAE

318. *Agastache urticifolia* (Benth.) Kuntze. Lincoln Co.: ravine, 3 miles above Grand Coulee Dam and 3 miles south of Columbia River, above 1290-ft. level, June 4, 1940, *Rogers* 611.

319. *Lycopus americanus* Muhl. Stevens Co.: damp, grassy place along Colville River near its confluence with Columbia River, July 5, 1939, *Boner & Weldert* 203.

320. *Mentha canadensis* L. Mint. Ferry Co.: damp sand along Kettle River, 2 miles northwest of Boyds, July 28, 1939, *Boner & Weldert* 249.

321. *Prunella vulgaris* L. Self-heal; heal-all. Stevens Co.: damp, grassy place along Colville River near its confluence with Columbia River, July 5, 1939, *Boner & Weldert 204*.

322. *Salvia carnosae* Dougl. Purple sage. Grant Co.: west-facing talus slope in the Grand Coulee, 8 miles north of the Dry Falls, May 17, 1940, *Rogers 445*. Lincoln Co.: sandy slope along Columbia River, 3 miles above Grand Coulee Dam, about 1290-ft. level, May 19, 1940, *Rogers 465*.

323. *Scutellaria angustifolia* Pursh. Ferry Co.: rocky west bank of San Poil River, 1 mile north of Keller Ferry, below 1290-ft. level, May 20, 1940, *Rogers 479*. Stevens Co.: basalt talus slope along creek along Spokane River, 13 miles above its mouth, above 1290-ft. level, May 21, 1940, *Rogers 484*.

324. *Scutellaria galericulata* L. Marsh scullcap. Ferry Co.: damp sand along Kettle River, 2 miles northwest of Boyds, July 28, 1939, *Boner & Weldert 248*.

SCROPHULARIACEAE

325. *Castilleja lutescens* (Greenm.) Rydb. Stevens Co.: sandy slope along south side of Columbia River, 1 mile below Gerome, below 1290-ft. level, May 23, 1940, *Rogers 511* (!Ownbey).

326. *Castilleja miniata* Dougl. Indian paint brush. Ferry Co.: rocky west shore of Columbia River, 7 miles below the Kettle Falls, below 1290-ft. level, May 25, 1940, *Rogers 541* (Ownbey); moist spot in rocky hills, 3 miles north of Gerome, above 1290-ft. level, June 11, 1940, *Rogers 654* (!Ownbey).

327. *Castilleja pallescens* (Gray) Greenm. Grant Co.: in the Grand Coulee, 7 miles north of the Dry Falls, May 17, 1940, *Rogers 437* (!Ownbey).

328. *Collinsia parviflora* Lindl. Blue lips. Lincoln Co.: gravelly northwest slope along south side of Spokane River, 4 miles above its mouth, above 1290-ft. level, April 5, 1940, *Rogers et al. 252* (!Pennell). Stevens Co.: sandy flat along east side of Columbia River, 4 miles above mouth of Spokane River, below 1290-ft. level, *Rogers 305* (!Pennell).

329. *Mimulus guttatus* DC. Ferry Co.: moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 575* (!Pennell). Grant Co.: along pond in the Grand Coulee, 8 miles north of the Dry Falls, June 3, 1940, *Rogers 597* (!Pennell).

330. *Mimulus moschatatus* Dougl. Muskflower. Ferry Co.: moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 562* (!Pennell).

331. *Orthocarpus tenuifolius* (Pursh) Benth. Owl's clover. Lincoln Co.: sandy bench at mouth of Spokane River, above 1290-ft. level, May 31, 1940, *Rogers 580* (!Keck; !Pennell).

332. *Penstemon confertus* Dougl. Ferry Co.: grassy slope, Kettle Falls, west side of Columbia River, July 2, 1939, *Boner & Weldert 191*. Stevens Co.: sandy flat along Columbia River, 1 mile above Gifford, below 1290-ft. level, May 24, 1940, *Rogers 525* (!Keck; !Pennell); sandy loam of east bank of Columbia River, about 15 miles south of Kettle Falls, May 27, 1939, *Sharsmith 4034*.

333. *Penstemon gairdneri* Hook. Grant Co.: rocky soil in the Grand Coulee, 1 mile west of Deep Lake, May 1, 1940, *Rogers 369*.

334. *Penstemon pruinosus* Dougl. Grant Co.: among shrubs at base of talus slope in the Grand Coulee, 13 miles north of the Dry Falls, May 17, 1940, *Rogers 451* (!Keck; !Pennell).

335. *Penstemon scouleri* Dougl. Stevens Co.: rocky bluffs above Kettle Falls, June 20, 1939, *Boner & Weldert 169*; rocky hills, 2 miles southeast of the Kettle Falls, above 1290-ft. level, April 27, 1940, *Rogers 345*.

336. *Penstemon speciosus* Dougl. Grant Co.: mouth of Northrup Canyon, in the east side of the Grand Coulee, 8 miles southwest of the Grand Coulee Dam, June 4, 1940, *Rogers 609* (!Keck; !Pennell). Lincoln Co.: sandy slope at mouth of Spokane River, below 1290-ft. level, May 31, 1940, *Rogers 578* (!Keck; !Pennell).

337. *Synthyris rubra* (Dougl.) Benth. Stevens Co.: rocky north slope on south side of Columbia River, 2 miles below Gerome, below 1290-ft. level, April 22, 1940, *Rogers 317* (!Pennell).

338. *Verbascum blattaria* L. Moth mullein. Stevens Co.: damp, grassy place near the falls, Kettle Falls, June 30, 1939, *Boner & Weldert 188*.

339. *Veronica americana* Schwein. American brooklime. Ferry Co.: moist banks of Barnaby Creek at its confluence with Columbia River, below 1290-ft. level, May 30, 1940, *Rogers 564* (!Pennell). Stevens Co.: low, damp ground near Colville River, 2 miles south of Kettle Falls, June 17, 1939, *Boner & Weldert 156*.

340. *Veronica peregrina xalapensis* (H. B. K.) Pennell. Ferry Co.: moist banks of Nez Perce Creek at its confluence with Columbia River, below 1290-ft. level, April 28, 1940, *Rogers 354* (!Pennell).

341. *Veronica serpyllifolia* L. Ferry Co.: shaded, moist bank of Nancy Creek, 2 miles north of Kettle Falls, June 20, 1939, *Boner & Weldert 166*.

LENTIBULARIACEAE

342. *Utricularia vulgaris* L. Bladderwort. Stevens Co.: pond, southwestern part of county, May 27, 1939, *Sharsmith 4031*.

OROBANCHACEAE

343. *Orobanche fasciculata* Nutt. Grant Co.: in sagebrush in the Grand Coulee, 20 miles north of the Dry Falls, June 4, 1940, *Rogers 606*.

344. *Orobanche uniflora* L. Stevens Co.: sandy shore of Columbia River at Gifford Ferry, below 1290-ft. level, May 24, 1940, *Rogers 524*; sandy hill along north side of Spokane River near its mouth, above 1290-ft. level, June 6, 1940, *Rogers 619*.

PLANTAGINACEAE

345. *Plantago purshii* R. & S. Grant Co.: in sagebrush in the Grand Coulee, 20 miles north of the Dry Falls, June 4, 1940, *Rogers 607*.

RUBIACEAE

346. *Galium boreale* var. *intermedium* DC. Northern bedstraw. Stevens Co.: sandy slope along south side of Columbia River, 1 mile below Gerome, below 1290-ft. level, May 23, 1940, *Rogers 514*; sandy shore of Columbia River at Gifford Ferry, below 1290-ft. level, May 24, 1940, *Rogers 523*.

347. *Galium multiflorum* var. *puberulum* (Piper) St. John. Lincoln Co.: sandy slope at Keller Ferry, 1 mile south of Columbia River, above 1290-ft. level, May 19, 1940, *Rogers* 473, 474.

348. *Galium trifidum* L. Stevens Co.: slough near confluence of Colville River with Columbia River, June 23, 1939, *Boner & Weldert* 175.

349. *Galium vaillantii* DC. Lincoln Co.: rocky slope at mouth of Spokane River, below 1290-ft. level, May 22, 1940, *Rogers* 509.

CAPRIFOLIACEAE

350. *Linnaea borealis* L. Twinflower. Stevens Co.: brushy woods along Columbia River, 6 miles above Northport, above 1290-ft. level, June 9, 1940, *Rogers* 641.

351. *Lonicera involucrata* Banks. Black twinflower. Pend Oreille Co.: open woods in ravine in mountains, 4 miles east of Ione, May 27, 1940, *Rogers* 545 (!Rehder).

352. *Sambucus coerulea* Raf. Elderberry. Stevens Co.: sandy slope along Columbia River, 2 miles below Northport, about 1290-ft. level, May 28, 1940, *Rogers* 550 (!Rehder).

353. *Symphoricarpus albus* var. *laevigatus* Fern. Snowberry; buckbrush. Ferry Co.: open woods, 8 miles east of Keller, June 12, 1940, *Rogers* 659 (!Rehder).

VALERIANACEAE

354. *Plectritis macrocera* T. & G. Lincoln Co.: gravelly hill along south side of Spokane River at its mouth, about 1290-ft. level, April 18, 1940, *Rogers* 282 (!McVaugh). Stevens Co.: gravelly soil, east shore of Columbia River, 10 miles north of Gifford Ferry, below 1290-ft. level, April 23, 1940, *Rogers* 322 (!McVaugh).

355. *Valeriana edulis* Nutt. Tobacco root. Stevens Co.: in disturbed ground by roadside, 1 mile north of Colville, May 27, 1939, *Sharsmith* 4041.

356. *Valeriana sitchensis* Bong. Heliotrope. Ferry Co.: open woods, 1 mile north of Graves Lookout, July 18, 1939, *Boner & Weldert* 234.

CAMPANULACEAE

357. *Campanula rotundifolia* L. Scotch bluebell; harebell. Ferry Co.: sandy west shore of Columbia River at Inchelium, below 1290-ft. level, May 25, 1940, *Rogers* 532 (!McVaugh).

COMPOSITAE

358. *Achillea lanulosa* Nutt. Yarrow; tansy. Grant Co.: in sagebrush in the Grand Coulee, 7 miles north of the Dry Falls, May 17, 1940, *Rogers* 435 (!Blake).

359. *Adenocaulon bicolor* Hook. Pathfinder; silver-green. Ferry Co.: shaded, moist woods, 1 mile northwest of Growden Guard Station, 15 miles west of Kettle Falls, along Sherman Creek, July 25, 1939, *Boner & Weldert* 237.

360. *Agoseris heterophylla* var. *kymapleura* Greene. Goat chicory. Stevens Co.: clearing in valley of Flat Creek, 2 miles above its mouth, above 1290-ft. level, June 10, 1940, *Rogers* 647 (!Blake).

361. *Anaphalis margaritacea* (L.) B. & H. Pearly everlasting. Ferry Co.:

dry roadside, 2 miles south of Kettle Falls, near confluence of Sherman Creek with Columbia River, July 4, 1939, *Boner & Weldert 201*.

362. *Antennaria anaphaloides* Rydb. Stevens Co.: sandy slope along south side of Columbia River, 1 mile below Gerome, below 1290-ft. level, May 23, 1940, *Rogers 515* (!Blake).

363. *Antennaria aprica* Greene. Stevens Co.: sandy flat, 8 miles above Gifford Ferry, along east side of Columbia River, below 1290-ft. level, May 7, 1940, *Rogers 405* (!Blake).

364. *Antennaria luzuloides* T. & G. Lincoln Co.: sandy slope along south side of Spokane River, 10 miles above its mouth, about 1290-ft. level, May 21, 1940, *Rogers 488* (!Blake), *Rogers 489* (!Blake). Stevens Co.: sandy flat along Columbia River, 2 miles north of Gifford, below 1290-ft. level, June 8, 1940, *Rogers 624* (!Blake).

365. *Antennaria rosea* Greene. Lincoln Co.: grassy north slope at mouth of Spokane River, below 1290-ft. level, May 22, 1940, *Rogers 503* (!Blake), pistillate plants, growing with staminate plants of *Antennaria umbrinella* Rydb. (*Rogers 502*). Stevens Co.: stony east shore of Columbia River, 6 miles below Gifford, below 1290-ft. level, May 23, 1940, *Rogers 519* (!Blake).

366. *Antennaria umbrinella* Rydb. Lincoln Co.: grassy north slope at mouth of Spokane River, below 1290-ft. level, May 22, 1940, *Rogers 502* (!Blake), staminate plants, growing with pistillate plants of *Antennaria rosea* Greene (*Rogers 503*).

367. *Arnica cordifolia* Hook. Stevens Co.: in ravine in Douglas fir woods along east side of Columbia River, 12 miles above mouth of Spokane River, about 1290-ft. level, May 6, 1940, *Rogers 400* (!Blake).

368. *Arnica sororia* Greene. Lincoln Co.: grassy north slope at mouth of Spokane River, below 1290-ft. level, May 22, 1940, *Rogers 505* (!Blake). Stevens Co.: sandy flat along Columbia River, 6 miles below Northport, above 1290-ft. level, May 28, 1940, *Rogers 551* (!Blake).

369. *Artemisia absinthium* L. Absinthe; sagebrush. Stevens Co.: open, sandy place, old town of Kettle Falls, August 1, 1939, *Boner & Weldert 260*.

370. *Artemisia canadensis* Michx. Stevens Co.: dry place along shore of Columbia River, 1 mile south of Kettle Falls, July 30, 1939, *Boner & Weldert 252*.

371. *Artemisia gnaphalodes* Nutt. Ferry Co.: dry, sandy shore of Kettle River, near its confluence with Columbia River, July 31, 1939, *Boner & Weldert 253*. Lincoln Co.: dry, gravelly creek bed along Columbia River, 3 miles above Grand Coulee Dam, above 1290-ft. level, June 5, 1940, *Rogers 612* (!Blake). Stevens Co.: dry place near Colville River at its confluence with Columbia River, July 31, 1939, *Boner & Weldert 256*.

372. *Artemisia tridentata* Nutt. Sagebrush. No collections made. Abundant in the Upper Grand Coulee.

373. *Aster conspicuus* Lindl. Rough aster. Stevens Co.: dry roadside near Marcus, $\frac{1}{4}$ mile from Columbia River, July 13, 1939, *Boner & Weldert 227*.

374. *Aster ericoides* L. Stevens Co.: dry roadside, Kettle Falls, August 1, 1939, *Boner & Weldert 259*.

375. *Aster laevis* L. Smooth aster. Ferry Co.: dry, sandy bank of Nancy Creek near its confluence with Columbia River, July 31, 1939, *Boner & Weldert* 254.

376. *Aster modestus* Lindl. Ferry Co.: damp, sandy woods along Sherman Creek, 1½ miles northwest of Growden Guard Station, 15 miles west of Kettle Falls, July 26, 1939, *Boner & Weldert* 244.

377. *Aster occidentalis* (Nutt.) T. & G. Stevens Co.: sandy, moist shore of Columbia River, 1 mile south of Kettle Falls, July 30, 1939, *Boner & Weldert* 250.

378. *Balsamorhiza hirsuta* var. *lagocephala* Sharp. Grant Co.: dry, rocky slope above Park Lake, below the Dry Falls of the Grand Coulee, April 3, 1940, *Rogers et al.* 234 (!Blake), apparently hybridizing with *Balsamorhiza sagittata* (Pursh) Nutt. (*Rogers et al.* 232). Lincoln Co.: grassy slope on south side of Columbia River, 5 miles above Grand Coulee Dam, above 1290-ft. level, April 19, 1940, *Rogers* 295 (!Blake), apparently hybridizing with *Balsamorhiza sagittata* (Pursh) Nutt. (*Rogers* 293).

378X. *Balsamorhiza hirsuta* var. *lagocephala* Sharp X *Balsamorhiza sagittata* (Pursh) Nutt. The following collections are from what appear to be segregating hybrid swarms. Grant Co.: dry, rocky slope above Park Lake, below the Dry Falls of the Grand Coulee, April 3, 1940, *Rogers et al.* 233 (!Blake). Lincoln Co.: grassy slope on south side of Columbia River, 5 miles above Grand Coulee Dam, above 1290-ft. level, April 19, 1940, *Rogers* 294 (!Blake).

379. *Balsamorhiza sagittata* (Pursh) Nutt. Balsamroot. Grant Co.: dry, rocky slope above Park Lake, below the Dry Falls of the Grand Coulee, April 3, 1940, *Rogers et al.* 232 (!Blake), apparently hybridizing with *Balsamorhiza hirsuta* var. *lagocephala* Sharp (*Rogers et al.* 234). Lincoln Co.: grassy slope on south side of Columbia River, 5 miles above Grand Coulee Dam, above 1290-ft. level, April 19, 1940, *Rogers* 293 (!Blake), apparently hybridizing with *Balsamorhiza hirsuta* var. *lagocephala* Sharp (*Rogers* 295).

380. *Chaenactis douglasii* (Hook.) H. & A. Bride's bouquet. Grant Co.: gravelly soil at base of west-facing talus slope in the Grand Coulee, 8 miles north of the Dry Falls, June 3, 1940, *Rogers* 602 (!Blake).

381. *Chrysopsis hispida* (Hook.) DC. Stevens Co.: dry, sandy roadside, Kettle Falls, July 2, 1939, *Boner & Weldert* 192.

382. *Coreopsis atkinsoniana* Dougl. Stevens Co.: moist meadow near confluence of Colville River with Columbia River, June 23, 1939, *Boner & Weldert* 174.

383. *Crepis barbiger* Leiberg. Ferry Co.: sandy slope along Columbia River at Keller Ferry, below 1290-ft. level, June 12, 1940, *Rogers* 666 (!Blake).

384. *Erigeron compositus* Pursh. Cutleaf fleabane. Lincoln Co.: gravelly hill along south side of Spokane River, 5 miles above its mouth, just above 1290-ft. level, April 21, 1940, *Rogers* 303 (!Blake). Stevens Co.: stony bar along south side of Columbia River at Gerome, below 1290-ft. level, April 22, 1940, *Rogers* 319 (!Blake).

385. *Erigeron concinnus* (H. & A.) T. & G. Lincoln Co.: sandy bench at mouth of Spokane River, above 1290-ft. level, June 1, 1940, *Rogers* 585 (!Blake).

Stevens Co.: sandy flat along Columbia River, 2 miles north of Gifford, below 1290-ft. level, June 8, 1940, *Rogers 623* (!Blake).

386. *Erigeron corymbosus* Nutt. Ferry Co.: rocky hills, 3 miles north of Gerome, above 1290-ft. level, June 11, 1940, *Rogers 655* (!Blake).

387. *Erigeron divergens* T. & G. Stevens Co.: sandy clearing, 2 miles below Flat Creek, along Columbia River, about 1290-ft. level, May 29, 1940, *Rogers 554* (!Blake).

388. *Erigeron filifolius* (Hook.) Nutt. Grant Co.: in sagebrush in the Grand Coulee, 20 miles north of the Dry Falls, June 4, 1940, *Rogers 605* (!Blake). Lincoln Co.: sandy hill along Columbia River, 3 miles above Grand Coulee Dam, above 1290-ft. level, June 5, 1940, *Rogers 615* (!Blake). Stevens Co.: dry, sandy roadside, Kettle Falls, July 10, 1939, *Boner & Weldert 215*; sandy flat along Columbia River, 2 miles north of Gifford, below 1290-ft. level, June 8, 1940, *Rogers 626* (!Blake).

389. *Erigeron linearis* (Hook.) Piper. Grant Co.: sagebrush association in the Grand Coulee, 20 miles north of the Dry Falls, May 18, 1940, *Rogers 454* (!Blake).

390. *Erigeron macranthus* Nutt. Smooth fleabane. Ferry Co.: sandy flat, along Columbia River, opposite Marcus, below 1290-ft. level, June 10, 1940, *Rogers 650* (!Blake). Stevens Co.: open, fairly moist woods along Colville River, 1 mile from its confluence with Columbia River, June 19, 1939, *Boner & Weldert 163*.

391. *Erigeron philadelphicus* L. Ferry Co.: moist soil by pond along Columbia River, 8 miles below the Kettle Falls, below 1290-ft. level, May 25, 1940, *Rogers 539* (!Blake). Stevens Co.: low, damp ground near Colville River, 2 miles south of Kettle Falls, June 17, 1939, *Boner & Weldert 157*.

392. *Erigeron poliospermus* Gray. Grant Co.: shallow, rocky soil in the Grand Coulee, 7 miles north of the Dry Falls, May 17, 1940, *Rogers 439* (!Blake). Lincoln Co.: grassland, 1 mile south of Columbia River and 4 miles above Grand Coulee Dam, above 1290-ft. level, May 19, 1940, *Rogers 467* (!Blake).

393. *Eriophyllum lanatum* var. *integrifolium* (Hook.) Smiley. Grant Co.: west-facing talus slope in the Grand Coulee, 8 miles north of the Dry Falls, May 17, 1940, *Rogers 453* (!Blake). Stevens Co.: among boulders in sandy ground, bank of Spokane River, about 6 miles above its confluence with Columbia River, May 27, 1939, *Sharsmith 4027*.

394. *Gaillardia aristata* Pursh. Brown-eyed Susan; blanket-flower. Stevens Co.: sandy shore of Columbia River at Gifford Ferry, below 1290-ft. level, May 24, 1940, *Rogers 522* (!Blake).

395. *Gnaphalium palustre* Nutt. Cudweed. Stevens Co.: moist, sandy flat at mouth of Onion Creek, about 1290-ft. level, June 9, 1940, *Rogers 638* (!Blake).

396. *Lagophylla ramosissima* Nutt. Lincoln Co.: sandy bench at mouth of Spokane River, above 1290-ft. level, June 1, 1940, *Rogers 583* (!Blake).

397. *Madia exigua* (Smith) Gray. Lincoln Co.: sandy bench at mouth of Spokane River, above 1290-ft. level, June 1, 1940, *Rogers 584* (!Blake; !Keck). Stevens Co.: sandy flat along Columbia River, 8 miles above Gifford Ferry, below 1290-ft. level, May 24, 1940, *Rogers 526* (!Blake; !Keck).

398. *Microseris nutans* (Geyer) Schultz Bip. Ferry Co.: open woods, 8 miles east of Keller, June 12, 1940, *Rogers 658* (!Blake).

399. *Microseris troximoides* Gray. Grant Co.: sagebrush association in the Grand Coulee, 20 miles north of the Dry Falls, May 18, 1940, *Rogers 457* (!Blake); grassy hill along south side of Columbia River, 1 mile above Grand Coulee Dam, above 1290-ft. level, May 18, 1940, *Rogers 459* (!Blake). Lincoln Co.: rocky soil, 1 mile south of Columbia River and 4 miles above Grand Coulee Dam, above 1290-ft. level, May 19, 1940, *Rogers 469* (!Blake).

400. *Senecio integerrimus* Nutt. Grant Co.: grassy hills, south side of Columbia River, 1 mile up river from Grand Coulee Dam, above 1290-ft. level, May 2, 1940, *Rogers 376* (!Blake). Lincoln Co.: base of hill at mouth of Spokane River, below 1290-ft. level, May 5, 1940, *Rogers 391* (!Blake).

401. *Senecio leibergii* Greene. Ferry Co.: open pine woods at the Kettle Falls, above 1290-ft. level, May 11, 1940, *Rogers 423* (!Blake).

402. *Senecio ?laetiflorus* Greene. Ferry Co.: shaded, moist bank of Nancy Creek, 2 miles north of Kettle Falls, June 20, 1939, *Boner & Weldert 167*. Stevens Co.: rocky east shore of Columbia River, 6 miles below Gifford, below 1290-ft. level, May 23, 1940, *Rogers 518* (?Blake).

403. *Senecio triangularis* Hook. Arrowhead ragwort. Ferry Co.: damp, sandy woods along Sherman Creek, 1½ miles northwest of Growden Guard Station, 15 miles west of Kettle Falls, July 26, 1939, *Boner & Weldert 245*.

404. *Tetradymia canescens* DC. Grant Co.: in greasewood in the Grand Coulee, 7 miles north of the Dry Falls, June 2, 1940, *Rogers 593* (!Blake).

405. *Wyethia amplexicaulis* Nutt. Black sunflower. Lincoln Co.: sandy slope along south side of Spokane River, 10 miles above its mouth, about 1290-ft. level, May 21, 1940, *Rogers 487* (!Blake).

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THE COUNTRY WIFE IN THE EIGHTEENTH CENTURY

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In the eighteenth century the managers of the theaters occasionally faced the difficult problem of keeping their attention upon two groups of people whose conception of the function of the drama often differed materially. Very naturally, the managers wished to present plays which would make the greatest appeal and prove most profitable to the box-office; to do so, they catered to the theater-going public. As practical men, they also hoped not to antagonize excessively the body of moralists who were often of considerable influence and power and who might possibly threaten the profitable existence of the playhouses. The balance between these two forces was often disturbed, for the moralists occasionally were vocal and effective, as at the beginning of the century, when a reform movement reached its climax in a considerable body of anti-stage literature which had been stimulated in 1698 by the publication of Jeremy Collier's *A Short View of the Immorality and Profaneness of the English Stage*.¹ For the theatrical managers, actual indictments of players for performing in licentious plays and the possibility of further legal action against the playhouses were very serious matters indeed. Nevertheless, the reformist movement apparently never enlisted the support of both the theater-going audiences and the general public in a sufficient degree to bring about the closing of the theaters or the drastic revision of those plays to which the moralists objected.

Toward the middle of the century a reform movement again became evident in the theaters. It did not have so dramatic an appearance as the publication of a work like Collier's; rather, it was the culmination of a long-existent point of view which eventually enlisted the support of a considerable portion of the theatrical audiences and which found expression among the periodical writers and the dramatic reviewers for the newspapers, who very probably reflected the views of many people. This part of the century set as its ideal a drama whose primary function was to "expose vice and promote virtue," as the *General Evening Post*, May 23-26, 1772, stated it; and its general program was either the elimination from the repertory of those plays which did not meet

¹ For a considerable list of such pamphlets, see F. T. Wood, "The Attack on the Stage in the Eighteenth Century," *Notes and Queries*, CLXIII (1937), 218-22.

that criterion or their revision to insure that they should have a proper moral effect upon the susceptible audiences who frequented the theaters.

For this principle the age had a convenient word: "utility." As the *London Magazine*, July, 1768, put it: "In works of literature we are always to fix the criterion of merit by the standard of utility, and no composition can ever be reckoned good which has not a tendency to instruct us." Normally, the term referred to the instructional value of a play; when a dramatic piece contributed to the inculcating of virtue in man, it had "utility" or was "useful." For example, in the *Public Ledger*, October 1, 1764, *George Barnwell* was acclaimed as "a very moral production; and in point of real utility, is worth a cartload of *Alexanders the Great*, *Venice Preserved*, and *Unhappy Marriages*." When this point of view was applied to Restoration drama, especially Restoration comedy, it generally found those plays not merely deficient in utility but often inimical to the best interests of society. In the *Public Ledger*, September 25, 1765, a writer discussed this standard in terms of contemporary versus earlier dramatists:

For my own part, I shall by no means attempt to set the authors of this period in competition, either for wit or humour, with Wycherley, Etheridge, Congreve, and a number of other eminent names, whom our grandfathers have honoured with the highest share of approbation; but in real utility, I shall not hesitate to give the poets of the present hour a considerable superiority. Wycherley, Etheridge, and their contemporaries, were possessed of parts rather brilliant than useful; and they aimed infinitely more at saying fine things, than just ones; hence decency and good sense were continually sacrificed to an ill-timed emanation of vivacity; and so an audience could be set in a roar with some sprightly sally of genius, no matter what became of their morals or their understanding.

Between Jeremy Collier's day and the middle of the century, however, those Restoration comedies which had found any degree of favor with the audiences were generally acted in the original versions. There were occasional outbursts against the licentiousness of some of the comedies, but in general the pieces of Wycherley, Congreve, and Vanbrugh were acted, often very frequently, in their original form until around the middle of the century. Then, after a period of infrequent performance, many were re-examined and brought forth in an altered form. The revision might be merely an excision of passages that were thought dated or objectionable, the objections being to "licentious" portions; the alteration might, however, be an extensive rewriting of

the play, with the deletion of scenes and the addition of new ones. The treatment accorded Congreve's comedies illustrates the first or "pruning" method; the alteration of Wycherley's *The Country Wife* is an example of more comprehensive revision. It is with the rise and decline in popularity of this play and with its ultimate transformation into *The Country Girl* that this paper is concerned. The stage history and revisions of the comedy will, it is hoped, illuminate the changing conception of comedy which made a great many Restoration comedies unpalatable in their original form to the later eighteenth century. First of all, it is necessary to determine the vogue of *The Country Wife* in the century and the criticisms made of it.²

I. THE STAGE HISTORY, 1675-1753.

Of the fortunes of the play in the seventeenth century not a great deal is known. It was first produced in January, 1675, at the Theater Royal, with a cast which included such favorites of the day as Hart, Mohun, Haines, Kynaston, and Mrs. Knepp. Even in its own day, according to an implication in *The Plain Dealer* (Act II, scene i), *The Country Wife* was evidently thought by some to be too risqué. There is no complete record of its history in the twenty-five years following its premiere, although a few performances have been noted, particularly those on January 12 and 15, 1675,³ and on May 16, 1676.⁴ Probably it was occasionally offered in later years, for Colley Cibber refers to William Mountfort's acting of Sparkish, and Mountfort, not a member of the original cast, was rising to his full powers at the union of the companies in 1682.⁵ The meager information available would suggest that *The Country Wife* and *The Plain Dealer* were about equally popular before 1700.

² There has been no comprehensive account of the history of the play and its revisions. In John Genest's *Some Account of the English Stage* (Bath, 1832), many performances are listed but no consecutive account of its history is given. In *The Playhouse of Pepys* (New York, 1935) and *The Complete Works of William Wycherley* (London, 1924), Montague Summers has listed some of the revivals with an occasional comment upon the actors. A brief statement of the vogue of the comedy appears also in Ursula Todd-Naylor's edition of the play in the *Smith College Studies in Modern Languages*, XII (1930-31), Nos. 1, 2, 3, pp. xix-xxii.

³ Allardyce Nicoll, *A History of Restoration Drama, 1660-1700* (Cambridge, 1928), p. 307.

⁴ *Ibid.*, p. 308.

⁵ *An Apology for the Life of Mr. Colley Cibber*, ed. R. W. Lowe (London, 1889), I, 128-29.

Early in the new century there were in London two active theaters, in Drury Lane and in Lincoln's Inn Fields, where both comedies were presented occasionally; until the season of 1708-09, however, *The Country Wife* was apparently to be seen only in Lincoln's Inn Fields, *The Plain Dealer* only in Drury Lane. In the first six seasons *The Plain Dealer* was the more frequently acted, receiving nine performances as against four. Of the stage performances we know little. *The Country Wife* was given twice in 1701-02, on October 1 and 21, with no advertisement of the cast. In the next season it was offered once, on December 29, 1702; and in 1703-04, on February 2, 1704. On neither occasion was the cast advertised in the *Daily Courant*, the newspaper which then carried theatrical notices.⁶

For the next four years it was not given in London; then in 1708-09 it was revived for two performances. The first of these, on April 14, 1709, was given a notice in *The Tatler* (No. 3). In his comment Steele discusses a number of points of interest in view of the attitude of the late eighteenth century toward the comedy. Wycherley "insinuates," says Steele, that "there is no Defence against Vice, but the Contempt of it"; this point is demonstrated by the playwright's showing, "in the natural Ideas of an untainted Innocent . . . the gradual Steps to Ruin and Destruction, which Persons of Condition run into, without the Help of a good Education how to form their Conduct." Steele seems at pains to suggest a contrast between the taste and ideas of Wycherley's day and his own, for he states that Horner may be a "good Representation of the Age in which that Comedy was Written," an age when "Love and Wenching were the Business of Life." The contrast between the two periods is developed most fully in Steele's remarks upon the comic method of Wycherley:

To which only it is to be imputed, that a Gentleman of Mr. Wycherley's Character and Sense, condescends to represent the Insults done to the Honour of the Bed, without just Reproof; but to have drawn a Man of Probity with Regard to such Considerations, had been a Monster, and a Poet had at that Time discovered his Want of knowing the Manners of the Court he lived in, by a virtuous Character in his fine Gentleman, as he would show his Ignorance by drawing a vicious one to please the present Audience.⁸

⁶ The casts and the dates of the performances of *The Country Wife* have been secured from the theatrical advertisements in the daily newspapers of the eighteenth century; although advertisement is not proof that a performance occurred, discrepancies between plays advertised and plays performed seem rare.

⁷ Later in the century critics were to see an even greater disparity between the manners of their age and of Wycherley's.

⁸ Much of this was repeated in *The Life of that Eminent Comedian Robert Wilks, Esq.* (London: E. Curll, 1733), p. 39.

As a reformer of manners, however, Steele differs with his "fellow Labourers" who are severe with plays; a "good Play acted before a well-bred Audience" aids, he asserts, in establishing "good Behaviour."⁹

This performance was a benefit for Mary Bicknell, who acted Margery Pinchwife, probably for the first time. Steele stated that through "the whole Action she made a very pretty Figure, and exactly entered into the Nature of the Part," and that she "did her part very happily, and had a certain Grace in her Rusticity, which gave us Hopes of seeing her a very skillful Player." Although she also played successfully Prue in *Love for Love* and Belinda in *The Old Batchelor*, Margery Pinchwife was probably her best comic rôle, and she retained it to her death in 1723. Supporting her were several of the best actors of the day: Robert Wilks, whom Thomas Davies characterized as "the finished and polite Libertine,"¹⁰ as Horner; Colley Cibber as Sparkish; Richard Estcourt, a favorite of the upper ranks of society,¹¹ as Quack; and John Mills, a useful actor in many types of parts, as Harcourt. George Powell, who inherited many of Betterton's rôles, acted Pinchwife. The other performers were Bullock (Sir Jasper), Bullock, Junior (Dorilant), Mrs. Bradshaw (Alithea), and Mrs. Powell (Lady Fidget). It was, on the whole, an excellent cast, yet, in spite of the fact that the same actors, with a few changes, were to offer the play successfully from 1715 to 1730, it went unacted for six seasons following 1708-09. During the first decade of the century it was played only six times as compared with nine for *The Plain Dealer*. Both were much less popular than such Restoration comedies as Etherege's *The Man of Mode* (fourteen performances) and *She Would if She Cou'd* (thirteen) or Congreve's *The Old Batchelor* (sixteen) and *Love for Love* (twenty-four). *The Country Wife*, however, exceeded in popularity *The Double Dealer*, the least appreciated of Congreve's comedies in the eighteenth century, and *The Way of the World*, although both of these eventually survived *The Country Wife*.

For six years (1709 to 1715) no play of Wycherley's was acted in London. In the spring of 1715, however, *The Country Wife* was re-

⁹ Although the critics of later years were to agree with Steele as to the value of a good play, they were to question whether Wycherley's comedies were "good" plays and whether they contributed to improving the morals and manners of the audience.

¹⁰ *Dramatic Miscellanies* (Dublin, 1784), III, 219.

¹¹ John Downes, *Roscius Anglicanus*, ed. Montague Summers (London, n.d.), p. 51.

vived; for nine successive years Drury Lane—and Drury Lane alone—presented it. The revival occurred late in the season, on May 18, with another performance on May 23. Probably the ending of Drury Lane's monopoly helped to bring the comedy onto the stage again, since the opening on December 18, 1714, of a new theater in Lincoln's Inn Fields under the management of John Rich, not only affected adversely Drury Lane's prosperity¹² but apparently stirred it into varying its repertory by reviving plays long inactive. In addition to *The Country Wife*, it brought forth again *The Country Lasses*, *The Emperor of the Moon* (fairly popular, with nine performances), *Greenwich Park*, *The Indian Queen*, and *The Island Princess* (very popular in both theaters). Possibly *The Country Wife* was chosen for revival because it could easily be cast, since four of the major parts—Horner, Harcourt, Sparkish, and Margery Pinchwife—could be taken by performers who had acted them in 1709: Wilks, Mills, Cibber, and Mrs. Bicknell. Because Powell had died in 1714, Barton Booth acted Pinchwife, one of the "Parts of Humour" which were "remarkable Instances" of Booth's comic powers.¹³ Because Bullock and his son had been engaged by Lincoln's Inn Fields, Henry ("Jubilee Dicky") Norris and Lacy Ryan replaced them as Sir Jasper and Dorilant. Except for Mrs. Bicknell, the actresses were new to their parts: Miss Willis (Mrs. Squeamish), Mrs. Santlow (Alithea), Mrs. Saunders (Lady Fidget), and Mrs. Younger (Mrs. Fidget).

For nine consecutive seasons, with a few changes in the cast, the comedy was offered in Drury Lane, but it was never exceedingly popular. It averaged better than three performances a season as compared with an average of six a year for *The Old Batchelor* or *Love for Love*. The vogue of *The Country Wife* was now more nearly that of *The Man of Mode* and above that of *She Would if She Cou'd*. In fact, the seasonal history of the comedy offered few eventful years. In 1715-16 it opened Drury Lane's season on October 13 and was repeated three times.¹⁴ In 1716-17 it was offered three times, with

¹² In *Mr. Cibber of Drury Lane* (New York, 1939), R. H. Barker has shown that an average profit of £19 nightly in 1713-14 dwindled steadily after Rich's theater opened in the next season (p. 105).

¹³ Benjamin Victor, *Memoirs of the Life of Barton Booth, Esq.* (London, 1733), p. 30.

¹⁴ *The Plain Dealer* was revived in Lincoln's Inn Fields in the same season for seven performances, but after one performance in the next year, it was abandoned by Rich's company.

Mrs. Younger, a promising young actress who previously had acted Mrs. Fidget, as Alitheia, and Mrs. Horton as Mrs. Fidget. In 1717-18 there were four performances, with Mrs. Santlow returned to play Lady Fidget.¹⁵ For the next five years, the cast was almost without change; the number of performances varied: 1718-19, two; 1719-20, four; 1720-21, five; 1721-22, four; 1722-23, two. After a performance on March 19, 1723, it was omitted for two seasons, probably because the death of Mrs. Bicknell took from the cast the best Margery Pinchwife in the company.

The absence of the comedy from the stage was, however, only a brief one. Revived in 1725, it was presented at least twice yearly into the spring of 1747. Competition between the two theaters helped to sustain it on the stage during those years, for when it was revived in October, 1725, it was offered in two playhouses in the same season for apparently the first time in its history; not until 1733-34 was it again to be given in only one. Possibly Drury Lane would not have restored the comedy to its stage had it not noticed preparations in Lincoln's Inn Fields for casting it there. Although Drury Lane gave it first, on October 2, its priority was by two days only; probably the actor-managers decided to steal a march on the opposition. By the end of the season, however, Lincoln's Inn Fields had the greater success with the comedy: ten performances to three; this was the best season *The Country Wife* had in the century. Of necessity Drury Lane made some changes in the cast. To replace Mrs. Bicknell, the managers chose Mrs. Cibber, who played Margery Pinchwife for six years. As Mrs. Younger had been engaged by Rich, Mrs. Heron played Alitheia. There were other changes in the lesser rôles.

Since John Rich had never before offered the comedy, he had to cast it for the first time. Having engaged Mrs. Younger, he chose her to play Mrs. Pinchwife on October 4 for her first appearance in his theater. Lacy Ryan, once the Dorilant of Drury Lane, undertook Horner, a part he kept until 1734; and Diggs, also once Dorilant with the opposition, retained it here. For Harcourt, Rich chose Thomas Walker, later to win fame with *The Beggar's Opera*; he was the only actor whom Davies remembered who "could give consequence to such parts as Worthy in the Recruiting Officer, and Harcourt in the Coun-

¹⁵ In the summer of 1718 Drury Lane revived *Love in a Wood*, Wycherley's first play. Acted on August 15 and 19, it seems never to have been presented again in the eighteenth century.

try Wife.”¹⁶ Of major importance to the cast was John Hippisley, an excellent low comedian appearing also as Sir Paul Plyant (*The Double Dealer*) and Fondlewife (*The Old Batchelor*), who played Sir Jasper, and James Quin, a man of many talents, who acted Pinchwife. John Hall and “Baron” Eggleton were Quack and Sparkish. Next to Mrs. Younger in ability was Mrs. Bullock (Lady Fidget).

In many respects this was an excellent cast, certainly equal in ability to that in Drury Lane; the success of the play in Lincoln’s Inn Fields—ten performances in 1725-26 and seven in 1726-27—testifies to the competence of the acting. The box office receipts also suggest that, for at least the first five performances, the audiences were fairly large.¹⁷ For the opening, October 4, the receipts were £126, a sum above the average for plays unaccompanied by pantomimes or similar entertainments. For the second performance, on October 6, the income dropped to £79 17s, and on October 8 remained nearly on that rather profitable level, £73 11s 6d. On November 27 the receipts were £78 15s, on December 22, £67 2s, still probably profitable. The income for the later performances tells less of the vogue of the comedy itself, for it was either accompanied by a pantomime, the popularity of which often overshadowed that of the play, or it was offered as a benefit for a player, an occasion when the esteem of the public for the actor usually affected the receipts. On January 22, 1726, for example, the comedy and *Apollo and Daphne*, a pantomime produced only the week before, brought a very large income, £168 4s; on February 15, with the same afterpiece, which had now lost some of its novelty, the comedy attracted only £68 3s. On March 17, a command performance for royalty, the total was again high, £164 17s.¹⁸ On April 13, a benefit for Richard Leveridge, a very popular singer, the receipts were £136 15s 6d.

For several years Lincoln’s Inn Fields offered the comedy more frequently than did its competitor. In 1726-27 it gave seven perform-

¹⁶ *Memoirs of the Life of David Garrick, Esq.* (London, 1780), I, 25.

¹⁷ The receipts for Lincoln’s Inn Fields and its successor, Covent Garden, have been preserved for many seasons before 1748 in the Latreille Calendar (British Museum, Ad. Mss. 32, 249-32, 252); some have been published by F. T. Wood in “The Account-Books of Lincoln’s Inn Fields Theater, 1724-27,” *Notes and Queries*, CLXIV (1933), 220-24, 256-60, 272-74, 294-98.

¹⁸ *The Weekly Journal*, March 19, 1726, reported this performance: “Last Thursday Night his Majesty went to the Theatre Royal in Lincoln’s-Inn-Fields, to see the Play of The Country Wife, and the Entertainment of Apollo and Daphne, in which was perform’d a particular Flying on that Occasion, of a Cupid descending, and presenting his Majesty with a Book of the Entertainment, and then ascended.”

ances to Drury Lane's one; in 1727-28 it was four to one; in 1728-29, five to two. In 1726-27 William Milward, a newcomer to the company, played Sparkish, and William Bullock acted Dorilant; Lavinia Fenton, soon to be Polly (*The Beggar's Opera*), was Mrs. Squeamish.¹⁹ In 1727-28 Thomas Chapman, an excellent comedian, appeared as Sparkish, a part he was to keep for twenty years; and Milward changed to Dorilant, which he acted until 1733.²⁰ For the next four seasons there was little variation in the status of the comedy. Rich continued to offer it the more frequently: in 1728-29, five times to Drury Lane's two; in 1729-30, four to one²¹; in 1730-31, six to one; in 1731-32, four to two. During these years London audiences watched the same excellent casts compete: Ryan (Lincoln's Inn Fields) and Wilks (Drury Lane) as Horner; Walker and Mills as Harcourt; Chapman and Cibber as Sparkish; Hippiisley and Norris as Sir Jasper; Quin and Booth (Harper, after 1728) as Pinchwife; and Mrs. Younger and Mrs. Cibber as Mrs. Pinchwife.²²

After seventeen years in Lincoln's Inn Fields, John Rich built a new theater in Covent Garden, to which he moved on December 7, 1732; he offered *The Country Wife* twice that season in the old theater, twice in the new. The cast changed little.²³ In Drury Lane, however,

¹⁹ The receipts for *The Country Wife* when unaffected by a pantomime or benefit did not remain so high as in the previous season: October 3, 1726, £45 7s, only average for a play acted alone; November 16, £36 9s; December 12, with *Harlequin Sorcerer*, £108 12s 6d; March 23, 1727, a benefit for Quin (Pinchwife), £158 2s 6d; April 21, a benefit, £54 3s 6d; May 17, a benefit, £197 9s 6d; June 5, with a pantomime, £83 4s.

²⁰ The play was performed only once unaided by pantomime or benefit: September 11, 1727, £53 18s, above average for that month; October 25, with a pantomime, £53 19s; December 9, with a pantomime, £46 0s 6d; May 30, a benefit, £105 7s. As is apparent, there was no performance of the comedy during the late winter, when *The Beggar's Opera* overshadowed everything else.

²¹ The popularity of the comedy was apparently neither aided nor weakened by the opening of a third major playhouse (Goodman's Field) in 1729-30. Although the management of the new theater immediately competed with the old houses in offering many old plays, it never brought any of Wycherley's plays onto its stage. Neither did the various companies occupying the Little Theater in the Haymarket.

²² As a rule, in Lincoln's Inn Fields *The Country Wife* was acted without a pantomime or benefiting player only early in the season; on those evenings it usually brought only average receipts, such as on September 19, 1729, £54 4s; September 18, 1730, £21 13s 6d; October 27, 1731, £53 1s. Occasionally it was acted as a benefit for one of the principal performers in the cast: Mrs. Younger (Mrs. Pinchwife), March 20, 1729, £181 17s; Mrs. Bullock (Lady Fidget), April 2, 1730, £154 11s; and Quin (Pinchwife), March 18, 1731, £129 3s.

²³ On its unassisted performances the comedy fared only moderately well: October 9, £43 7s, rather low for the month; January 26, £41 14s 6d. In this

the comedy went into a decline, with only one performance in 1732-33. In the next season, for the first time since 1724-25, that theater omitted *The Country Wife*. The omission was undoubtedly caused by the defection of the major part of the company under the leadership of Theophilus Cibber, who had become angered because his father had sold to John Highmore the share of Drury Lane which Theophilus had considered his rightful inheritance. Young Cibber and his associates occupied the Little Theater in the Haymarket, but did not offer Wycherley's comedy. Neither did the weakened company remaining in Drury Lane. Without competition, Covent Garden increased its performances to six, two more than in either of the previous years.

After this season the comedy declined in popularity. Although Cibber and his associates returned to Drury Lane before the end of 1733-34, *The Country Wife* was not acted there until 1734-35. By this time the company had engaged Quin to act Pinchwife, and William Mills now played Horner, one of the parts in which he was said to have caught some of Wilks' "Catch in the voice" and to have been "always very busy on the Stage; and, what all Actors ought to value themselves upon, very perfect."²⁴ John Mills, Theophilus Cibber, and Griffin continued as Harcourt, Sparkish, and Sir Jasper, respectively. Catherine Clive, at her best in a part like Prue (*Love for Love*), acted Margery Pinchwife, and Hannah Pritchard, an actress of talent and beauty, was Lady Fidget. Although this was a good cast, Drury Lane gave the comedy but twice in 1734-35 and twice more in 1735-36, and omitted it the next year. In 1734-35 Covent Garden acted it three times, in 1735-36 only once,²⁵ and in 1736-37 twice. The play had clearly lost some of its popularity.

Although the comedy had had a varied history in the first third of the century, there was very little printed criticism of it; the state of public opinion in respect to the play is revealed only in its stage history and, to some extent, in the box-office receipts. In 1735, however, it received considerable praise in *The Prompter* (April 1), a theatrical journal edited by Aaron Hill, who had an abiding interest in matters theatrical. The discussion is fundamentally a comparison of the comedy

season Covent Garden also revived *The Plain Dealer* for the first time in London since April 8, 1727, and acted it six times.

²⁴ *An Apology for the Life of Mr. T. . . . C. . . . Comedian*, p. 140.

²⁵ Although the receipts during this period have generally not been preserved, they are available for the performance on October 6, 1735, £57 15s 6d, above the average for that month (British Museum, Egerton Ms. 2267).

with a new one, *The Man of Taste, or The Guardian*, and although there is little revelation of the current state of opinion of Wycherley's play, it was evidently considered a skillfully developed comedy:

It is not to be questioned, but that the *Country Wife* is built from the same Play that gave Rise to the *Guardians*, and that both Imitators had the same *French* Original in View. But to see the Difference between a *real Genius* and one that is *not*. The first, even in Imitation, becomes *new*, and *improves* from the MODEL in his Eye. —The other is *servile*, and instead of *augmenting* the Beauty of his Original, *lessens* it, by copying it too closely. . . .

THE Author of the *Country Wife* has varied even the *Fable* as well as the *two Characters* in his Play. *Fondlewife* and *Margery* are Characters that become *original* in this Poet's *creative Hands*.—Even the *Incident* of the Letter, which both Poets have made use of, and the bringing the one *his Charge*, and the other *his Wife*, to his Rival, are conducted with so judicious a Variety in the manner of doing it, that, tho' plainly imitated from the *French Plot*, has all the Grace and Charm of Novelty.

Such praise apparently had little effect upon the fortunes of the play. Although Drury Lane restored it to the repertory in 1737-38 (and revived *The Plain Dealer* for eight performances), each theater gave it only once; through 1741-42 it was never played more than four times in any season; once in each house in 1738-39; three times in Drury Lane in 1739-40; four there in 1740-41; and three in Covent Garden in 1741-42. The change from one theater to the other was usually occasioned by the departure of a key player from one company to the other. In 1739-40, for example, Chapman transferred from Covent Garden to Drury Lane, whereupon Rich omitted the play for two seasons. When he returned in 1741-42, Drury Lane did not offer the comedy. Apparently it was not in sufficient demand to make recasting advisable when an important player was absent.

Nevertheless, *The Country Wife* was to have one more burst of popularity before it departed from the eighteenth-century stage. In 1742-43 Covent Garden offered it ten times to Drury Lane's two.²⁶ Once again, the movement of actors had helped to restore the play to new favor, for James Quin had returned to Covent Garden to act Pinchwife once more, as he had done there until 1734, and Mrs. Cibber, absent from the stage for several years, reappeared in London to act Margery Pinchwife. Ryan, Chapman, and Hippisley continued their rôles and helped to make the cast an exceptionally strong one. Although Drury Lane re-engaged Mrs. Pritchard to play Alithea and

²⁶ This was one performance short of its best season, 1725-26.

secured Bridges from Dublin to act Pinchwife, it could not meet the competition of Quin, Ryan, Hippisley, and Mrs. Cibber. The changed casts did not, however, give the comedy sustained popularity; never thereafter did it have more than four performances in any season. In 1744-45 each theater gave it twice; in the next season Drury Lane alone offered it on two evenings. Thereafter the number of performances was affected by the availability of Mrs. Clive and Mrs. Cibber. In 1744-45 Mrs. Cibber was at Drury Lane, Mrs. Clive with the opposition; in 1745-46 Mrs. Clive joined the Drury Lane company, which alone acted *The Country Wife*. In 1746-47 Mrs. Cibber, who had "arriv'd at the highest Pitch of Excellence in the amiable, soft, and tender,"²⁷ acted at Covent Garden again, with Mrs. Clive remaining at Drury Lane.

Then, for the first time since 1724-25, it was omitted entirely in London. Although the omission was for a single season, it heralded the decline of the play as a stock piece in the repertory, for it never re-established itself. In 1748-49 Drury Lane offered it once, with Mrs. Clive as Mrs. Pinchwife, and repeated it in 1749-50. Once more it was omitted, this time for two years. Revived in 1752-53, it was played once in each theater; in the next year, in Covent Garden on November 7, 1753, it made its last appearance in its original form during the eighteenth century. For several decades it had had a fair degree of popularity; after 1753 it had to wait nearly twelve years before it appeared again, revised and chastened.

From 1700 to 1753 it had been offered 152 times, an average of three a season; its greatest popularity was from 1725 to 1742, when it averaged better than five performances a year. Of the total, sixty-eight were in Drury Lane, eight-four in Rich's theaters. It was decidedly more popular than *The Plain Dealer*, which had only sixty-four performances before 1743, when it was dropped from the repertories. The relative popularity of *The Country Wife* may be seen by comparison with that of other Restoration comedies during the same period, 1700-53: *The Comical Revenge*, 27 performances; *She Wou'd if She Cou'd*, 66; *The Man of Mode*, 95; *The Double Dealer*, 122; *The Way of the World*, 170; *The Old Batchelor*, 271; and *Love for Love*, 286. Although *The Country Wife* was less popular than three of Congreve's four comedies, it was more frequently performed than any of Ether-

²⁷ W. R. Chetwood, *A General History of the Stage* (London, 1749), p. 119.

ege's. All in all, it might be said that, as a stock play, it was neither extraordinarily popular nor conspicuously unpopular. It held the stage for more than eighty years after its first performance, but its vogue was steadily declining after 1743. Some of the reasons for its decline will appear in the arguments made for its revision in 1765 and later.

II. THE COUNTRY WIFE (two acts), 1765-1787.

The Country Wife was certainly not alone among Restoration comedies in being neglected by the London theaters toward the middle of the century. Not only were all of them being affected by the changing tastes of audiences two generations removed from Restoration times, but they were under fire because of their licentiousness and immorality; in the second half of the century, emphasis upon the necessity for instructional value and moral purpose in the drama became steadily more pronounced.²⁸ Many critics as well as reviewers for the newspapers were demanding that some of the objectionable comedies of Congreve, Wycherley, and Vanbrugh be dropped from the repertoires or revised to meet the standards of the day. *The Country Wife* was one of the first to be subjected to thorough revision; in 1765 and 1766 it was twice rewritten.

The first of these revisions was undertaken by John Lee; it was offered at Drury Lane on April 25, 1765, as a benefit for Lee and Miss Slack, an actress. The alteration was, in effect, a condensation of the original into two acts, Wycherley's title being retained; and it had six characters: Sparkish (acted by King), Pinchwife (Lee), Dorilant (Packer), Servant (Watkins), Alithea (Mrs. Hopkins), and Margery (Miss Slack). In the "Advertisement" to the published version, it is stated that "Many Characters of the Original Comedy are left out, for Reasons that will be obvious to all who may chuse to read the Play itself; and such as are retained will, it is hoped, be thought, at least, inoffensively humourous." In shortening the play, Lee omitted Horner, Sir Jasper, Quack, Lady Fidget, Mrs. Dainty Fidget, Mrs. Squeamish, and Lady Squeamish. In principle, his method was to use some scenes from Wycherley's play but to eliminate dialogue when necessary and to write new lines or scenes to replace those found objectionable. In the condensation he retained only two sets of incidents. One is a modi-

²⁸ The same principles, of course, affected both comedy and tragedy, and many of the moralistic conceptions which influenced the drama may be seen in Chapter V of C. C. Green's *The Neo-Classical Theory of Tragedy in England in the Eighteenth Century* (Cambridge, Mass., 1934).

fication of the intrigue of Horner with Margery Pinchwife; since Horner himself is eliminated, many of his remarks are spoken by Dorilant, who becomes a mild version of Horner. The other sequence of incidents comprises the Harcourt-Sparkish-Alitheia triangle, which becomes a more central one than it was in the original.

Lee's first act omits Wycherley's opening scene and begins with conversation between Harcourt and Dorilant, who now has many of Horner's lines. The second scene is very much the same (except for some toning down of the language) as Act II, scene i, of the original. In Act II, the opening scene of which corresponds to IV, i, of Wycherley's play, Lee has retained chiefly the coming of Harcourt disguised as a parson. In the second scene Lee keeps most of the episode of the letter (IV, i); the last scene, however, offers a variation on the original. In it Dorilant and Pinchwife quarrel; when Pinchwife gives him the letter which Margery has written, Dorilant throws it on the floor. Sparkish then picks it up and reads it aloud, to Pinchwife's discomfiture; thereupon Alitheia tells him that he must now see the folly of resting his "happiness upon that slender reed, *simplicity*," yet assures him that Margery's "present frailty is more the offspring of *that foible*, than it is of a vicious appetite." Alitheia advises him to release Margery from his rigorous supervision: "let her associate with the innocent and sensible of both sexes; and improve that mind, which has hitherto been too un-informed to defend itself from the attacks of its own passions, or from those of others." Convinced, Pinchwife tells Dorilant that bygones shall be bygones; when Margery enters, Dorilant pretends that he has received a censuring letter from her and departs. With Pinchwife and Margery restored to a better mutual understanding, Alitheia announces her decision to marry Harcourt, and in closing states the sentiment of the altered play:

No more let anxious doubts o'er love preside,
But gen'rous confidence be virtue's guide!
Those wives are chastest, whom indulgence charms,
Those husbands happiest, whom no fear alarms.

Acted only as an afterpiece, it was given six times during 1764-65 at Drury Lane and was repeated twice in the spring of 1766. Perhaps because it was an afterpiece, it did not receive much attention from the dramatic critics²⁹; and in later years it was undoubtedly eclipsed by

²⁹ The *Critical Review*, XIX (June, 1765), 480, in a brief notice of the printed play was severe with it: "We could wish that this author would, for the future,

David Garrick's adaptation (*The Country Girl*). Certainly it was Garrick's version which, appearing in the autumn of 1766, kept Lee's alteration from any further success in Drury Lane. Its next appearance was in Covent Garden in the spring of 1768, where it was again acted as an afterpiece on April 13 and May 3. In the following summer, on August 15 and 17 and September 12, the summer company in the Haymarket offered it. In 1768-69 Covent Garden gave it as an afterpiece five times, in 1769-70 only once; then it was omitted for several years.

On December 16, 1776, Covent Garden revived it for its most successful season: twelve performances. In reviews of the first performance the *Morning Chronicle* and the *Gazetteer and New Daily Advertiser* agreed that Wycherley's play had been too licentious for the audiences of the late eighteenth century, and that Lee's alteration was at least satisfactory in cleansing the comedy. The *Chronicle* stated that in consequence of the "expunging" of the "grosser parts" of the dialogue and the removal of the "most obnoxious" of the characters, the "Comedy is now equally pleasant and innocent." The *Gazetteer* believed that the "pruning knife has been handled with great discretion; so that the best humour of the piece is preserved in the Farce. It contains several facetious incidents." As to its reception, the *Chronicle* reported that it was "exhibited . . . amidst the repeated acclamations of a numerous audience," and the *Gazetteer* that the "facetious incidents" were "highly relished." Both agreed that Mrs. Wilson as Mrs. Pinchwife was excellent. The *Gazetteer* thought that her acting contributed more than anything else to "heighten the merit of this diverting little piece," and the *Chronicle* praised her for playing the part "with great ease and naiveté, not once exceeding that simplicity of manner which Wycherley designed to mark the character with."³⁰ Both praised Lee as Pinchwife, although the *Gazetteer* was restrained in its comment: "Mr. Lee was not amiss in Pinchwife."

let Wycherley alone, and resolve to stand or fall by his own genius, of which we can judge but very superficially from this specimen." The *Biographia Dramatica* (1812) commented very briefly upon the alteration: "This alteration is Mr. John Lee's; but since Shakespeare has suffered by the same hand, could Wycherley complain of mutilation?"

³⁰ The *London Magazine*, XLVI (January, 1777), 7, spoke of her success in the part, mentioning the comedy itself "only to take notice of a Mrs. Wilson, who came out in the character of the *Country Wife*; and to affirm, that if her abilities be as *general*, as they are *genuine*, she will prove in the low walks of comedy, in the *first instance*, one of the best actresses that has appeared these twenty years on a London stage."

In spite of this considerable success, the comedy did not appear again until December 23, 1779, its only performance that season. Three years later, on November 16, 1782, it was presented once more. After another gap of three seasons, it was revived for six performances in 1785-86 and four in 1786-87, after which it seems to have disappeared from the eighteenth century stage. Much of the success of these two seasons was due to Mrs. Brown, who acted Margery and who was a rival of Mrs. Jordan, the very popular actress whose playing of Peggy (Margery) in *The Country Girl* was to give that alteration of Wycherley's play great popularity in the closing years of the century. Lee's version had by 1787 been acted forty-three times, an average of two a season. Lee was undoubtedly unfortunate in that Garrick's adaptation came so soon after his as to cost him greater success for his version.

III. THE COUNTRY GIRL, 1766-1800

The second alteration of Wycherley's comedy was also performed in Drury Lane (where a revision of *The Plain Dealer* had recently appeared); the alterer this time was David Garrick, now in the midst of his career as actor and manager. On July 31, 1766, he wrote to George Colman: "I have made a beginning upon ye *Country Wife*—I like my Scheme, but it is a great change in ye Piece."¹ By the time he wrote a preface to the published play² he knew that "near half of the . . . Play is new written." He also stated that he "claims no Merit," for his purpose was primarily to "clear one of our most celebrated Comedies from Immorality and Obscenity"; he has attempted to "present as much of the Original as could be presented to an Audience of these Times without Offence." In closing, he declared that there

seems indeed an absolute Necessity for reforming many Plays of our most eminent Writers: For no kind of Wit ought to be received as an Excuse for Immorality. . . . Without such a Reformation, our *English* Comedies must be reduced to a very small Number, and would pall by a too frequent Repetition, or what is worse, continue shameless in spite of publick Disapprobation.

In one respect Garrick's alteration follows Lee's; both omit Horner and the Fidget-Squeamish group. Garrick, however, kept the play at full length, five acts, and, as his title suggests, made a major change in the character and situation of Margery Pinchwife, who is now Peggy

¹ *Posthumous Letters from Various Celebrated Men Addressed to Francis Colman and George Colman, the Elder* (London, 1820), pp. 298-99.

² *The Country Girl. A Comedy. Altered from Wycherley*. London, 1766.

Thrift, a lively country girl under the guardianship of Jack Moody (formerly Pinchwife). Moody attempts, however, to leave with everyone the impression that Peggy is his wife. Young Belville, a nephew of Harcourt, replaces Horner. Since he is a young man who wishes to marry Peggy, what was once an intrigue involving Horner and Margery becomes the attempt of Belville and Peggy to thwart her guardian and to be married. Garrick of necessity rewrote some scenes.³³ Much of Act I of *The Country Girl* is new; in it Harcourt, in love with Alithea, who is to be married to Sparkish, and Belville, in love with Peggy, prepare the audience for the principal developments in the plot. At the end of the act when Moody (Pinchwife) enters, the Horner-Pinchwife dialogue of Wycherley's Act I becomes a conversation between Harcourt and Moody. Garrick's Act II, which is more like the original, is based upon II and III, i; in Act III Garrick begins with III, ii, of *The Country Wife*, which is considerably rewritten, and adds a song (by Sparkish). Garrick also inserts a scene in which Belville and Peggy plan to elope but are prevented by the entrance of Moody. The closing of Act III corresponds with the end of the same act in the original. In Act IV Garrick does not permit Harcourt to appear on the stage disguised as a parson in the interval³⁴; instead, Sparkish reports that event to Moody, who has had Peggy write to Belville and has himself delivered the letter she substitutes. Garrick has added a scene in which Lucy, Peggy's maid, visits Belville to tell of Peggy's willingness to elope with him. In the first scene of Act V (a combination of IV, iv, and V, i) Peggy, disguised as Alithea, leaves her guardian's quarters and goes to Belville's lodgings. By the time Moody discovers the deception, Peggy and Belville are married, as are Harcourt and Alithea. Although discomfited, Moody is a likely prospect for appeasement; in the closing scene the two couples discuss ways of restoring

³³ Only a detailed comparison of Garrick's version with the original would show the changes made in the dialogue. The extent of the rewriting may also be seen by an examination of the copy submitted to the Licensor of Plays (Larpent Ms., LA8S3, in the Huntington Library). Garrick used a printed copy of Wycherley's play upon which the dialogue to be omitted has been lined out and the new written in; when the rewriting was very extensive (as in Act I), the new material has been interleaved with the printed sheets in the proper order. The differences between the copy submitted to the Licensor and the printed version do not show any major changes in Garrick's original intention.

³⁴ One of the objections to Restoration comedies made by the reformers was to the disguising of men as clergy or even to the representation of the clergy upon the stage.

themselves to his favor. Peggy closes the play by saying, "I am sure I'll do anything to please my Bud but marry him."³⁵

The Country Girl was first presented in Drury Lane on October 25, 1766, where it had the considerable success of fourteen performances during the season. Garrick stated in the "Advertisement" to the play that his "first Motive" for making the alteration was to show to advantage Miss Reynolds, a young actress to whose training he had given considerable care, and to her he gave the part of Peggy. The merits of both Miss Reynolds and the revision precipitated a lively discussion, and a review in the *St. James' Chronicle* for October 25-28 implied that the performance took place under somewhat inauspicious circumstances:

We were very sorry on this Occasion to be witnesses of the revival of party in the Theatre; for we cannot possibly attribute to any other cause the opposition given to a particular scene of his Comedy; a Scene, which has been a Favourite of the Public from the days of Wycherley down to the present. He must have been a bold Alterer, that should have ventured to make any Innovation in that Part of the Play, which has so long been ratified by the Approbation of the Public The Alterer has, perhaps, in some few Instances, shewn too much Veneration for the Original Author; but, on the Whole, the Opponents to the Representation of his Comedy, are the wanton Enemies of their own Entertainment.

The *London Chronicle* for October 25-28 expressed, however, a distinct disapproval of the altered comedy:

This is an alteration of the Country Wife of Wycherley. The obscene parts of which are omitted, as also the luxuriant wit of that celebrated Poet. Some of the characters are disguised under new names, and so robb'd of their original merit, that they are scarcely known to their old acquaintances. Mrs. Pinchwife is unmarried, and only under the guardianship of Mr. Pinchwife, her former husband. Many characters are expelled and none heightened except Mr. Pinchwife, now Mr. Moody The Country Wife, now Mrs. Peggy, is rendered more outré than she was in her former state, and has lost her original

³⁵ The *Critical Review*, XXII (November, 1766), 379, commenting upon the printed play and the alteration of *The Plain Dealer* as well, touched upon the difficult problem of altering old plays: "In both instances, we think that the original author has unavoidably lost almost as much on the side of wit, as he has gained on that of decency; for the wit and ribaldry of 'this wanton of Charles's days' are so blended, that it is often impossible to obliterate one without expunging the other. It must, however, be allowed, that the writer of the Country Girl has considerably improved on his original in the construction of the fable; not only by converting the libidinous Horner into the modest Mr. Belville, but by dissolving the marriage between Margery and Pinchwife, and representing his heroine as a simple spinster.

simplicity. Many of the scenes are insufferably tedious and insipid, and the whole apparently confused and insignificant.³⁶

There was greater agreement upon the merits of the actors, although not all thought Miss Reynolds equal to her part. The *St. James' Chronicle*, strong in defense of the play, admitted that possibly she played one scene poorly, "but her great Excellence in the rest of the Character ought, we think, to have challenged some little Indulgence."³⁷ The *London Chronicle* stated, however, that the performers "seemed to exert their utmost efforts to support [the play], by a judicious and spirited performance." Moody, it said, "was strongly mark'd by Mr. Holland's great judgment and propriety." As the play was repeated again and again, the *London Chronicle* became steadily more outspoken in its opposition to the piece; in the issue for October 30-November 1, the reviewer remarked:

I wish this Country Girl had never made her appearance in town, unless she could have given more satisfaction. This performance is entitled to very little merit, and justly deserves censure.

After a while the suspicion arose that Garrick was forcing the play into continued performance in spite of a dwindling public interest. The *London Chronicle*, November 11-13, vigorously expressed this attitude:

This is the 9th time of performing it! The advertisement prefixed to this play, makes a very pretty decent apology for it.—Mark it well. "The desire of shewing Miss Reynolds to advantage, was the *first* motive for attempting an alteration of WYCHERLEY's COUNTRY WIFE." A model excuse truly. But will this justify the Managers?—No, nothing will excuse their forcing such a play upon the town, were it to introduce a *second* CIBBER. And, in my humble opinion, Miss REYNOLDS does not appear to that advantage in this piece, she could in many others. So the entertainment of the Town is to be limited and confined in order to raise and establish a raw unexperienced actress.

Nearly a year later (December 5, 1767) the *Theatrical Monitor*, a scurrilous paper which unmercifully attacked the theatrical managers,

³⁶ This review appeared also in the *Universal Museum*, October, 1766.

³⁷ Thomas Davies also thought her unsuited to the part. He said that, although Garrick "took infinite pains to adapt the whole of his play to the present taste, he could not entirely please the palate of the audience; he was unhappy in the choice of his actress to personate the Country Girl; Miss Reynolds, though not deficient in merit, neither in age, person, or look, could pretend to be the innocent and simple lass of sixteen" (*Memoirs of the Life of David Garrick, Esq.* [London, 1780], II, 121). Genest, V, 116, says that "she was approved in the character, but became careless, and in consequence dismissed."

made the point that the handling of *The Country Girl* was an example of the arbitrary and high-handed dictatorship of the managers:

For instance, it is well known the *Country Girl*, mentioned before in one of these papers, was greatly disapproved by the public *last winter*; it was, according to the style of the theatres, fairly damned; but the overbearing manager, continued to play it to houses filled with *orders*, (which may justly be called empty houses) so afterwards brought in this adopted child of his, often to public view, to the great disgust of every beholder; I remember the cry was *damn the piece*, but *save the girl*.

The box office receipts throw some light upon the justness of the assertion that Garrick forced the play upon the town. For the opening night they were £178 2s 6d, a sum exceeded only four times in the month of October. For the second and third evenings they were lower, £123 17s and £85 7s; on the fourth there was an increase to £115 18s. In November seven performances averaged £124, whereas the average for all plays in the same month was £165.³⁸ The receipts for November suggest that Garrick kept the play on the stage longer than its popularity warranted.

Although Miss Reynolds played the part during every performance but one in 1766-67, the comedy was slow in making its appearance the next season; when it did appear, on November 16, 1767, an experienced and capable actress, Mrs. Abington, played the *Country Girl*, but there was no other performance of the play in that season. The *Theatrical Monitor* (December 5) viewed Mrs. Abington's presence in the cast as proof of its assertion that Garrick had insulted the public the previous year by his handling of the play:

This play was impudently introduced again last week, under the consequential style of *not acted this season*, the *Country Girl* by Mrs. Abington, being her *first appearance in that character*. What can the public conclude from hence, but that the girl [Miss Reynolds] was *damned*, by thus losing her part, and the *play saved*, by way of an insulting contradiction to the *voice* of the *public*.

During 1768-69, however, the comedy was given seven times, with a "gentlewoman," Miss Burton, making her first appearance upon the stage as Peggy. The prompter's diary records his impression that she was a pleasant actress, did well, and was applauded.³⁹ She acted it again on September 30, 1769, the only performance that season.

³⁸ These receipts, taken from the Drury Lane account books in the Folger Shakespeare Library, are used by permission of the Director of the Library.

³⁹ See Dougald MacMillan, *Drury Lane Calendar, 1747-1776* (Oxford, 1938), p. 137.

Omitted for a year, it was revived for one performance on December 30, 1771. In a lengthy review⁴⁰ the *Public Ledger* surveyed the history of Wycherley's play and recounted the efforts of Garrick to revise and revive it. After noting that Garrick had announced that there seemed to be "an absolute necessity" for reforming old plays because of their licentiousness, the critic commented:

After this, will not our Readers be surprised to be informed, that though many obscene Passages in the original Play are omitted, this chaste, reforming Gentleman has ventured to retain many others?—We know what reply will be made to this charge. Had the Gentleman expunged the whole, he knew it would not answer his avaricious views. Without a little *smut* the Piece would have been too insipid for the *Bucks* of the *Town*, who would have banished it from the Stage, unless the Vacancies could have been supplied with something more important than the dull Genius of the Editor ever hit upon.⁴¹

A long review in the *St. James' Chronicle*, January 4-7, 1772, was more concerned with the loss of vigor which accompanied the change of *The Country Wife* into *The Country Girl*:

Whatever may be their Practice off the Stage, our Men and Women of Fashion are all *Purists* at the Theatre. The *Country Girl* is certainly an *innocent* one; the Prostitute is become a Penitent; but I fear has lost her Spirit in the Transition The *Country Wife* is a lady of Wit, Humour, Character, Satire, and infinite Wickedness; and, like *Jane Shore*, in the full Blossom of her Sins, was a fit Companion for a debauched King; but now, grown pale, weak, and emaciated, like the same Character, appears half starved, penitent to be sure, but scarce drags her feeble Legs after her.

Nevertheless, the critic did not want his readers to think that he wished to see the original comedy upon the stage:

Decency forbid! The *Country Wife* should never have been suffered upon the Stage. I only would insinuate, with great Deference to our Authors, or rather our Dramatick Tinkers, in general, that it is not sufficient to make altered Plays *innocent* only, they should at least be *pleasant* too.

Although both critics had reservations as to the merits of the comedy, both thought it well acted.

Not until 1774-75 was it revived again. On December 1, 1774, another young actress made her first appearance upon any stage as Peggy, much as Miss Reynolds eight years before and Miss Burton in

⁴⁰ Reprinted in the *Theatrical Review* (London, 1771-72), I, 330-33.

⁴¹ The critic repeated also the assertion that Garrick used the pretense of revising the play to introduce Miss Reynolds and added the verdict which some had reached: "The Play, however, met with no great success, notwithstanding the many artful attempts to force it upon the Town; and the young lady never rose to any importance."

1768-69 had done. This time it was Miss Robins, who impressed the prompter as showing promise.⁴² Garrick provided for her a new song and prologue and altered the epilogue. The reviews agreed that she had a successful début. The *St. James' Chronicle*, December 1-3, reported that

The young Gentlewoman who played the Country Girl, very happily represented the awkward Behaviour, and rustic Simplicity of the Character. Tho' she is no Beauty, she has strong Expression. Her Voice is pleasing, and she articulated her Words so properly, as to be heard when she almost whispers. Her Address to the Town was humorous and diverting. The Audience gave her very great and deserved Applause.

Although the *Morning Chronicle* was less flattering, it agreed that she deserved the applause of the audience:

Of her natural deportment, in the midst of a splendid awkwardness, suitable to the assumed character, it is difficult to judge; but we think we may at least venture to pronounce it to be natural and easy. Her person, face and voice (in *speaking* we mean for she sings very pleasingly) are not the most favorable; but many actresses have been capital with still fewer requisites. . . . On the whole, she fully deserved the great applause that she received.⁴³

In spite of this satisfactory début and a good cast, the comedy was acted only four times and did not appear again for a decade.

To 1785, in fact, Garrick's adaptation of *The Country Wife* was only slightly more popular than Lee's, and it had served chiefly to introduce young actresses to the stage. In 1785-86, however, the fortunes of the comedy changed, and in the next five years it was acted more often than it had been in the preceding twenty; this increased popularity was due to the ability of Mrs. Jordan, who on October 18, 1785, made her London début as Peggy and who acted the part fourteen additional times that season. James Boaden, actor and theatrical biographer, has left a full account of her powers. Mrs. Jordan had come to London from the York company, but she came with no report in her favor which would attract more than a moderate or curious audience. Mrs. Inchbald, who had known her in York, was happy to

⁴² *Drury Lane Calendar, 1747-76*, p. 182.

⁴³ On her next appearance, on December 3, the paper praised her with less reserve: ". . . and having divested herself of some of those fears which are usual on a first night's performance: she played the part with wonderful ease. It would be barely doing her justice to commend her in any particular act, as she played with critical propriety throughout the comedy; but in the letter scene she was superlatively admired."

see that Mrs. Jordan "at once displayed such consummate art, with such bewitching nature,—such excellent sense, and such innocent simplicity,—that her auditors were boundless in their plaudits, and so warm in her praises, when they left the theatre, that their friends at home would not give credit to the extent of their eulogiums."⁴⁴ To this praise Boaden added his commendation:

How exactly had this child of nature calculated her efficacy, that no intention on her part was ever missed, and, from first to last, the audience responded uniformly in an astonishment of delight. In the third act they more clearly saw what gave the elasticity to her step. She is made to assume the male attire; and the great painter of the age pronounced her figure the neatest and most perfect in symmetry that he had ever seen

But her fertility as an actress was at its height in the latter scene, perhaps the most perfect of all her efforts, and the best *jeu de théâtre* known without mechanism. The very pen and ink were made to express the rustic petulance of the writer of the first epistle, and the eager delight that composed the second, which was to be despatched instead of it to her lover.⁴⁵

During 1786-87 the play continued to be popular, for it was given ten times, with Mrs. Jordan acting in it every night but one. The principal review for the season appeared in the *World*, January 29, 1787; it opened with a humorous suggestion that Drury Lane showed a more "systematic disdain of money" than the other theaters, for it apparently was making no real effort against "a new Farce, and the Opera" at the other houses. It added that *The Country Girl* brought only half the charges for the evening, an exaggeration, no doubt, for the receipts were £180 18s, better than average for that month. After referring to the depressing effect of small audiences, the review continued in the *World's* peculiar style:

To counteract this chill—it could be for no other reason—Dodd wrapped himself up in the splendid comforts of *laced velvet*—Dodd's acting is almost

⁴⁴ Quoted by James Boaden in *Mrs. Jordan* (New York, n.d.), I, 66-67. Elsewhere Boaden related how she became acquainted with the part: "The permanent and unrivalled distinction of Mrs. Jordan was not at that time [1782] her prime characteristic The Country Girl had not even attracted her attention till she saw the part acted by Mrs. Brown of the same company; she then studied it closely, saw all the opportunities it afforded for the display of her lovely wildness, her laughing vivacity, her rich and abundant humour, and made it her own, beyond all competition." *Memoirs of the Life of John Philip Kemble, Esq.* (London, 1825), I, 297.

⁴⁵ *Mrs. Jordan*, I, 68-69. The receipts (Ad. Ms. 29, 709) were £196 6s 6d on the opening night, but dropped to £131 16s 6d and £132 10s 6d on October 24 and 28. Thereafter they remained high, especially in December and January, although some new afterpieces helped to swell the revenue. For a command performance on January 18, 1786, the receipts were very high, £311 15s 6d.

always well imagined; natural, and consequently touching; he was so in *Sparkish*.

With a lighter hand and softer tints, many of *Palmer's* performances would be faultless. *Harcourt* is so.

The stillness of *King* is excellent. His *Bustle* to those who see it often, wants variety. Much of his part on Saturday night, was fine acting. . . .

For the many lucky hits of Mrs. *Jordan*, in the *Country Girl*, these words in the letter scene were the most lucky—"Your insolence."—"Hate and detest you." As much as to say to *Moody*, "De te narratur."

Although the number of performances declined in 1787-88 to five, Mrs. *Jordan* continued to please the audiences, and from this time she was identified in the minds of London with the part of *Peggy*. On September 21, 1787, the *Public Advertiser* said that

Mrs. *Jordan* made her first appearance . . . in the *Country Girl*, and was received as she deserved to be, with loud and general marks of approbation. This valuable comic Actress play'd the character throughout with a natural simplicity peculiar to herself.

Because of illness she was absent during the middle of the season; her return was warmly welcomed by the *World* on April 7, 1788:

SATURDAY evening restored to the Town their long-lost Favourite, somewhat abated in the appearance of bodily strength, but in no way impaired in that gaiety, that playfulness, and that alarming vivacity, which distinguish her so highly. The audience welcomed her appearance with repeated applause.*

From this year the comedy was performed from one to six times each season to the end of the century. Occasionally Mrs. *Jordan* was absent from the cast, but it was her talent which sustained the play.⁴⁷ In 1788-89, when it was offered six times, the *Morning Chronicle*, December 6, 1788, suggested that her attraction was still growing: "Mrs. *Jordan* performed with more than usual animation, and was most deservedly applauded." Apparently her success was not without displays of temperament, for *Kemble*, the manager, recorded in his account book for December 22, 1788, his difficulties with her that day:

* On Saturday, July 26, 1788, Fanny Burney saw Mrs. *Jordan* play *Peggy* at the Chittenden Theatre but did not like the play: "We all proceeded to the play-house, which is a very pretty little theatre. Mrs. *Jordan* played the *Country Girl* most admirably, but the play is so disagreeable in its whole plot and tendency, that all the merit of her performance was insufficient to ward off disgust." *Diary and Letters of Madame d'Arblay*, ed. Charlotte Barrett (London, 1905), IV, 47.

⁴⁷ Mrs. *Jordan's* influence was such that her understudies imitated her slavishly. On February 17, 1798, Miss *Molina* played in her place and her "whole performance was regulated by a studied anxiety to be as like our great comic actress as possible." *Monthly Mirror*, V (March, 1798), 176.

"Mrs. Jordan again fancy'd herself ill. I spent above two hours coaxing her to act."⁴⁸ Although nearly all of her acting was in Drury Lane, her popularity made the comedy very useful for special performances. On June 16, 1790, for example, it was offered at Covent Garden, with Mrs. Jordan in her accustomed part, as a benefit for the widow and eight children of the actor Fearon. On June 4, 1791, it was chosen as the last play to be acted in the old Drury Lane theater. On July 2, 1794, it was offered at Drury Lane to aid a fund for the relief of the widows and children of the men who fell in action under Earl Howe; the receipts reached the enormous total of £1332 0s 6d. On June 14, 1797, it was again offered at Covent Garden for the benefit of the widows and orphans of the men killed or wounded on February 14, 1797, under Admiral Lord St. Vincent.

All in all, in the eighteenth century *The Country Girl* eclipsed Lee's revision of *The Country Wife*. In addition, Garrick's alteration survived into the nineteenth century with fair popularity. Much of its vogue was, of course, due to Mrs. Jordan, who made Peggy almost inseparable from herself, for she performed it at Drury Lane until 1810-11, when Mrs. Edwin appeared in the rôle. Although Mrs. Jordan subsequently acted the part at Covent Garden occasionally, performances declined in the second decade of the new century, but not seriously enough to dislodge the comedy from its position as a valuable part of the repertory. In the thirty-three years before 1800 it was acted 119 times, an average of more than three a season, about what Wycherley's comedy had achieved in its third of the century. *The Country Girl* and Lee's version combined exceeded the original play in the number of performances in the century.

The three plays—Wycherley's original version, Lee's revision, and Garrick's reworking of the plot—indicate the changing taste of the century. For the first forty years of the century Wycherley's play was a stock piece, not tremendously popular but apparently a dependable part of the repertory; it could be acted as Wycherley wrote it, and there were appreciative audiences. Within ten years after 1740, however, the public with a taste for the comedy had dwindled; it could profitably be performed only once or twice a year, and soon it was omitted from the yearly offerings of the playhouses, although there had been no violent attack to focus attention upon any objectionable

⁴⁸ Ad. Ms., 31, 972.

features. Yet it is clear from the revisions and the reviews of the alterations that certain elements within the play had brought it into disfavor. The principal one was the intrigue of Horner with Margery Pinchwife; it was probably what brought some writers of the middle of the century to assert that Wycheley's play should never have been brought upon the stage, even in Wycherley's own day. Lee attempted to make the comedy satisfactory to his day by dropping Horner, whose name and character must have been too vividly objectionable to allow his retention, and by substituting Dorilant, who is principally a means of persuading Pinchwife that his conception of matrimony and his conduct toward his wife are likely to ruin his marriage. In Lee's version the problems of marriage, lovers, wives, and husbands are still to the fore, but the emphasis is upon the improvement of the relations between Margery and Pinchwife, not upon intrigue itself and the entertainment resulting from it.

Lee's revision was ultimately less successful upon the stage than Garrick's, in which the emphasis is not so much upon marriage as upon the romantic endeavor of a young girl and a young man to escape the domination of her guardian and to be married. This, of course, is a time-worn but popular theme. Garrick keeps a slight flavor of the intrigue of the original play by having Moody (Pinchwife) give the impression that he and Peggy are married; but the emphasis is upon the attempt at elopement and upon the eventual success of the stratagems of Belville and Peggy. These variations in the original story seem to have been made necessary by a point of view which is well stated in Thomas Davies' remarks upon *The Country Girl* in relation to Wycherley's original:

The *Country Girl* was borrowed from the most licentious play in the English language, the *Country Wife* of Wycherley; in which there is to be found a more genuine representation of the loose manners, obscene language and dissolute practices of Charles the Second's reign, than in any other play whatsoever. The comedy, notwithstanding, is not deficient in wit, humour, or character.⁴⁰

To survive, the play had to be altered. It was difficult, however, to prepare a satisfactory alteration, for not everyone could be satisfied. Some critics objected that the revisions were not sufficiently extensive; others, that the alterer had created a lifeless play. A few were indignant that any tampering with the original had occurred, but they were

⁴⁰ *Memoirs of the Life of David Garrick, Esq.*, II, 120-21.

decidedly in the minority, for the audiences seemingly did not object in principle to the revision of the works of an author. Once the Restoration comedies had been altered, they could not easily be revived in their original state; and it was not until the twentieth century that Wycherley's *The Country Wife* was again offered to the public.⁵⁰ The modern revivals, however, have not been frequent, and Lee's and Garrick's revisions are even less likely to appear on the stage again.

APPENDIX

The following table attempts to list every performance of *The Country Wife* and the two alterations in the eighteenth century. In addition, the casts for the performances have been listed whenever possible. When no casting is listed for a given performance, it is to be assumed that the cast was the same as for the previous performance in that theater; when a partial cast is named, it is to be assumed that the rest of the cast is the same as for the previous performance. Since the advertisements occasionally omit any mention of the players, these listings cannot be completely accurate. The following abbreviations have been used: LIF—Lincoln's Inn Fields; DL—Drury Lane; CG—Covent Garden; HAY—Summer Haymarket.

The Country Wife (Wycherley)

1701-02. LIF: October 1, 21.

1702-03. LIF: December 29.

1703-04. LIF: February 2.

1708-09. DL: April 14. Horner—Wilks; Harcourt—Mills; Sparkish—Cibber; Sir Jasper—Bullock; Pinchwife—Powell; Quack—Estcourt; Country Wife—Mrs. Bicknell; Alithea—Mrs. Bradshaw. —29. Dorilant—Bullock, Jun.; Lady Fidget—Mrs. Powell.

1714-15. DL: May 18. Pinchwife—Booth; Sir Jasper—Norris; Dorilant—Ryan; Lady Fidget—Mrs. Saunders; Alithea—Mrs. Santlow; Mrs. Fidget—Mrs. Younger; Mrs. Squeamish—Miss Willis. —23.

1715-16. DL: October 13, 25, December 28, April 4.

1716-17. DL: September 29. Dorilant omitted; Alithea—Miss Younger; Mrs. Fidget—Mrs. Horton. —October 29, April 23. Dorilant—William Wilks.

1717-18. DL: October 10. Lady Fidget—Mrs. Santlow; Alithea omitted. —January 31. Dorilant—Diggs; Alithea—Miss Younger. —March 27. Dorilant omitted. —May 8.

⁵⁰ In *The Playhouse of Pepys*, pp. 318-20, Montague Summers has told of the revivals in 1924. In more recent years it has been offered in both London and New York.

1718-19. DL: October 22. Dorilant—W. Wilks; Lady Fidget—Mrs. Saunders; Mrs. Dainty Fidget omitted. —May 21. Dorilant omitted; Mrs. Fidget—Mrs. Horton; Mrs. Squeamish omitted.

1719-20. DL: September 29, December 9, February 1, April 19.

1720-21. DL: September 10, November 3, December 13, March 30. Alithea—Mrs. Booth. —June 13. Alithea—Miss Younger.

1721-22. DL: October 20. Lady Fidget—Mrs. Moor. —November 21, March 30, May 19. Dorilant—W. Wilks.

1722-23. DL: December 7, March 19.

1725-26. DL: October 2. Quack—Shepard; Dorilant—Watson; Mrs. Squeamish—Mrs. Young; Country Wife—Mrs. Cibber; Alithea—Mrs. Heron; Mrs. Fidget—Miss Seal; Lucy—Mrs. Baker. —November 11, 17. Lady Fidget—Mrs. Horton.

LIF: October 4. Horner—Ryan; Harcourt—Walker; Sparkish—Egleton; Sir Jasper—Hippisley; Pinchwife—Quin; Quack—Hall; Dorilant—Diggs; Mrs. Squeamish—Mrs. Butcher; Country Wife—Mrs. Younger; Alithea—Mrs. Parker; Lady Fidget—Mrs. Bullock; Mrs. Fidget—Mrs. Ward; Lucy—Mrs. Morgan. —6, 8, November 27. Mrs. Squeamish—Miss Smythies. —December 22, January 22, February 15, March 3, 17, April 13.

1726-27. DL: February 20. Mrs. Fidget—Miss Lindar. —May 8.

LIF: October 3. Sparkish—Milward; Mrs. Squeamish—Miss Fenton; Alithea—Mrs. Berriman; Mrs. Fidget—Mrs. Rice. —November 16, December 12, March 23, April 21, May 17. Dorilant—W. Bullock; Lady Fidget—Mrs. Morgan; Lucy—Mrs. Marten. —June 5.

1727-28. DL: October 25.

LIF: September 11. Lady Fidget—Mrs. Bullock; Lucy—Mrs. Morgan. —October 25. Alithea—Mrs. Moffet. —December 9, May 30. Sparkish—Chapman; Dorilant—Milward; Mrs. Fidget—Mrs. Lacy.

1728-29. DL: February 14, May 14. Pinchwife—Harper; Quack omitted; Mrs. Squeamish—Mrs. Grace; Alithea—Mrs. Butler; Mrs. Fidget—Mrs. Walter; Lucy—Mrs. Shireburn.

LIF: October 16, March 3. Alithea—Mrs. Berriman; Mrs. Fidget—Mrs. Squeamish; Lucy omitted. —March 20. Sir Jasper and Dorilant omitted. —May 7. Sir Jasper—Hippisley; Dorilant—Milward; Mrs. Squeamish—Miss Halliday; Mrs. Fidget—Mrs. Rice; Lucy—Mrs. Kilby. —23; Lucy—Mrs. Morgan.

1729-30. DL: November 3. Sparkish—Th. Cibber.

LIF: September 19. Mrs. Squeamish, Mrs. Fidget, and Lucy omitted. —January 16, April 2. Alithea—Mrs. Templar. —27. Mrs. Squeamish—Miss Halliday; Alithea—Mrs. Berriman; Lucy—Mrs. Morgan.

1730-31. DL: November 2.

LIF: September 18. Mrs. Fidget and Lucy omitted. —November 27, January 2, March 18, April 22, June 2.

1731-32. DL: September 21. Sparkish—Cibber; Sir Jasper—Griffin; Pinchwife—W. Mills; Quack—Shepard; Mrs. Squeamish and Mrs. Fidget omitted. —December 31.

LIF: October 27. Alithea—Mrs. Hallam. —December 17, February 29. Mrs. Fidget—Miss Horsington. —May 4.

1732-33. DL: April 19. Horner—Bridgewater; Harcourt—A. Hallam; Sparkish—Th. Cibber; Dorilant—Ridout; Mrs. Squeamish—Mrs. Grace; Country Wife—Miss Halliday; Mrs. Fidget omitted.

LIF: October 9. Mrs. Squeamish—Miss Horsington; Alithea—Mrs. Cantrell; Lady Fidget—Mrs. Buchanan; Mrs. Fidget—Mrs. Forrester. —November 16. Lady Fidget—Mrs. Bullock.

CG: January 26, as at LIF, November 16, 1732. —May 11.

1733-34. CG: October 18. Dorilant—Salway. —November 13, 29. Lucy—Mrs. Kilby. —February 25, April 2, May 8.

1734-35. DL: February 4. Horner—W. Mills; Harcourt—Mills; Dorilant—Este; Country Wife—Mrs. Clive; Lady Fidget—Mrs. Pritchard; Mrs. Fidget—Miss Mann; Lucy—Mrs. Cross. —6.

CG: November 11. Horner—A. Hallam; Pinchwife—Ryan; Quack—Mullart; Dorilant—Hale; Country Wife—Miss Bincks; Alithea—Mrs. Templar. —April 29. Country Wife—Miss Norse. —May 26.

1735-36. DL: December 6, May 15.

CG: October 6.

1736-37. CG: October 18. Dorilant—Marshall; Country Wife—Miss Bincks; Lady Fidget—Mrs. Mullart. —January 4.

1737-38. DL: October 27. Harcourt—Wright; Horner—Mills; Quack—Turbutt; Dorilant—Cross; Mrs. Fidget—Mrs. Bennet; Lucy—Mrs. Grace. —November 3.

CG: October 5. Dorilant—Neale; Mrs. Fidget—Mrs. Dancey. —November 8.

1738-39. DL: May 1. Sparkish—Woodward; Lady Fidget—Mrs. Furnival; Mrs. Fidget and Lucy omitted.

CG: February 9. Harcourt—Hale; Country Wife—Mrs. Vincent.

1739-40. DL: October 6. Sparkish—Chapman; Quack—Shepard; Dorilant—Ridout; Lady Fidget—Mrs. Pritchard. —November 14, April 28. Sir Jasper—Macklin; Mrs. Squeamish—Miss Thrynne.

1740-41. DL: November 1. Mrs. Squeamish omitted; Lucy—Mrs. Macklin. —December 4, May 9. Mrs. Fidget—Mrs. Woodward; Mrs. Squeamish—Mrs. Wright; Lucy—Mrs. Bennet. —27. Mrs. Squeamish omitted; Mrs. Fidget—Mrs. Bennet; Lucy—Mrs. Macklin.

1741-42. CG: October 31. Horner—Ryan; Pinchwife—Bridgewater; Quack—Marten; Dorilant—Cashel; Mrs. Squeamish—Miss Hillyard; Country Wife—Mrs. Pritchard; Alithea—Mrs. Stevens; Mrs. Fidget—Mrs. Hale. —November 2, January 12.

1742-43. DL: April 7. Harcourt—Blakes; Sparkish—Neale; Pinchwife—Bridges; Quack—Turbutt; Dorilant—Cross; Mrs. Squeamish omitted; Alithea—Mrs. Ridout; Mrs. Fidget omitted; Lucy—Mrs. Bennet. —28.

CG: November 15. Pinchwife—Quin; Country Wife—Mrs. Cibber; Quack, Dorilant, Mrs. Fidget omitted. —16, 19, December 1, 14, 30.

Dorilant—Cashel. —January 20, February 10, March 5, April 20.

1743-44. CG: December 16. Quack—Marten; Country Wife—Mrs. Clive; Alithea—Mrs. Vincent; Lucy—Mrs. Dunstall. —28, February 13. Lucy—Mrs. Kilby.

1744-45. DL: February 13. Harcourt—Havard; Sparkish—Yates; Dorilant—Blakes; Country Wife—Mrs. Cibber; Alithea—Mrs. Cross; Lady Fidget—Mrs. Mills; Mrs. Fidget—Mrs. Horsington; Lucy—Mrs. Bennet. —May 7. Country Wife—Miss Minors; Alithea—Mrs. Ridout.

CG: December 5. Mrs. Squeamish—Mrs. Bland; Alithea—Mrs. Mullart; Lucy—Mrs. Dunstall. —February 4.

1745-46. DL: November 28. Mrs. Squeamish—Mrs. King; Country Wife—Mrs. Clive; Mrs. Fidget omitted. —February 13. Quack—I. Sparks; Alithea—Mrs. Cross.

1746-47. DL: December 20. Harcourt—Blakes; Sparkish—Cibber; Dorilant—omitted; Mrs. Squeamish—Mrs. Pitt.

CG: February 11. Harcourt—Havard; Lady Fidget—Mrs. Bland; Lucy—Mrs. Havard; Mrs. Squeamish—Mrs. Rowley; Country Wife—Mrs. Cibber. —16, March 12.

1748-49. DL: November 28. Horner—Palmer; Harcourt—Havard; Sparkish—Woodward; Sir Jasper—Yates; Quack—Winstone; Dorilant—Blakes; Mrs. Squeamish—Mrs. Yates; Alithea—Mrs. Willoughby; Mrs. Fidget—Mrs. Pitt.

1749-50. DL: December 7.

1752-53. DL: May 4. Pinchwife—Burton; Alithea—Miss Minors; Mrs. Squeamish—Mrs. Simson; Mrs. Fidget—Mrs. Mills.

CG: March 20. Harcourt—Ridout; Dorilant—Usher; Pinchwife—Mrs. Bridgewater; Sparkish—Dyer; Sir Jasper—Macklin; Country Wife—Mrs. Vincent; Lucy—Miss Pitt; Alithea—Mrs. Ridout; Lady Fidget—Miss Macklin; Mrs. Squeamish omitted.

1753-54. CG: November 7. Quack—Dunstall; Sir Jasper—Collins; Lucy—Miss Helm. Alithea—Mrs. Elmy; Lady Fidget—Mrs. Pitt; Mrs. Fidget—Mrs. Barrington.

The Country Wife (Lee)

1764-65. DL: April 26. Sparkish—King; Pinchwife—Lee; Dorilant—Packer; Alithea—Mrs. Hopkins; Margery—Miss Slack. —27, May 7, 13, 15, 20.

1765-66. DL: April 18. Sparkish—Dodd; Harcourt—Aickin; Alithea—Mrs. Lee; Margery—Miss Plym. 21.

1767-68. CG: April 13. Pinchwife—Clarke; Sparkish—Dyer; Dorilant—Davis; Harcourt—Casey; Alithea—Mrs. DuBellamy; Margery—Miss Ward. —May 3. Pinchwife—Hull; Margery—Miss Ogilvie.

HAY: August 15, 1768. Pinchwife—Gardner; Dorilant—Davis. Harcourt—Casey; Sparkish—Loveman; Alithea—Mrs. Graham; Margery—Miss Agilvie.—17, September 12.

1768-69. CG: October 25. Harcourt—Perry; Margery—Miss Ward. —November 28, December 3, 5, January 14.

1769-70. CG: November 1.

1776-77. CG: December 16. Pinchwife—Lee; Margery—Mrs. Wilson; others omitted. —21. Sparkish—Lewes; Harcourt—Ward; Dorilant—Whitfield; Alithea—Miss Ambrose. —25, 28, January 3, 28, 31, February 4, 10, April 4, 9, 26.

1779-80. CG: December 23. Harcourt—Robson; Pinchwife—Hull.

1782-83. CG: November 16. Harcourt—Davies; Pinchwife—Wilson; Alithea omitted.

1785-86. CG: February 7. Pinchwife—Hull; Sparkish—Palmer; Harcourt—Davies; Dorilant—Cubitt; Alithea—Mrs. Bates; Margery—Mrs. Brown. —8, 9, 11, 28, March 18.

1786-87. CG: October 6. Sparkish—Brown. —18, November 17, February 17.

The Country Girl (Garrick)

1766-67. DL: October 25. Moody—Holland; Harcourt—Palmer; Sparkish—Dodd; Belville—Cautherley; Footman—Strange; Country Boy—Master Burton; Alithea—Mrs. Palmer; Lucy—Miss Pope; Peggy—Miss Reynolds. —27, 28, 30, November 1, 3, 5, 6, 10, 14, 25, December 27, January 1, April 29. Peggy—Mrs. Lessingham.

1767-68. DL: November 16. Peggy—Mrs. Abington.

1768-69. DL: December 1. Alithea—Mrs. Jefferies; Peggy—Miss Burton. —5, 10, 27, January 18, May 10, 23.

1769-70. DL: September 30.

1771-72. DL: December 30. Moody—King; Alithea—Mrs. Egerton; Peggy—Mrs. Abington.

1774-75. DL: December 1. Alithea—Mrs. Greville; Peggy—Miss Robins. —3, 8, 16.

1785-86. DL: October 18. Moody—King; Harcourt—Palmer; Sparkish—Dodd; Belville—Bannister, Jun.; Countryman—Jones; Servant—Spencer; Alithea—Mrs. Ward; Lucy—Mrs. Wrighten; Peggy—Mrs. Jordan. —24, 28, November 1, December 2, 14, 21, January 3, 18, February 1, 9, 17, 27, April 18, May 3.

1786-87. DL: September 21. Alithea—Mrs. Brereton. —November 29. Alithea—Mrs. Ward. —December 20, 29. Lucy—Mrs. Wilson. —January 22, 27, February 17. Sparkish—Brown; Harcourt—Barrymore. —24. Sparkish—Dodd. —April 10, May 4. Lucy—Mrs. Forester; Peggy—Mrs. Wilson.

1787-88. DL: September 22. William—Alfred; Peggy—Mrs. Jordan. —October 3, November 8. Sparkish—Lamash. —April 5. Sparkish—Dodd. —June 2.

1788-89. DL: November 21, December 5, 22. Moody—Bensley; Harcourt—Palmer; Sparkish—Lamash. —January 2, 16, May 23. Moody—Wroughton.

1789-90. DL: February 8. Moody-Bensley; Harcourt—Barrymore; Sparkish—Dodd; Belville—Whitfield. —March 1, 23. Alithea—Miss Collins; Moody—Wroughton. —May 1. Moody-Bensley.

CG: June 16. Moody-Wroughton; Harcourt—Benson; Belville—Egan; Country Boy—Letteny; Servant—Macdonald—Sparkish—Dodd; Alithea—Miss Collins; Lucy—Mrs. Hedges; Peggy—Mrs. Jordan.

1790-91. DL: September 14. Harcourt—Palmer; Alithea—Mrs. Ward. —30. Countryman—Fawcett. —December 31. Moody—King; Footman, Countryman omitted. —January 24, March 29. Harcourt—Barrymore. —May 4. Moody—Bensley. —13. Harcourt—Palmer. —June 4.

HAY: August 2, 1791. Moody—Bensley; Harcourt—Williamson; Sparkish—Bannister, Jun.; Belville—Bland; Footman—Farley; Ralph—Barret; William—Rock; Alithea—Mrs. Whitfield; Peggy—Mrs. Jordan; Lucy—Miss Fontelle.

1791-92. DL: October 6. Moody—King; Countryman—Jones; Servant—Webb; Lucy—Miss Edwards. —22, November 10, 24, December 21, January 23, March 22, April 16, May 22, June 2.

1792-93. DL: February 28, April 9. Moody—Bensley; Harcourt—Barrymore; Countryman—Fawcett. —30, May 15. Moody—King; Harcourt—Palmer; Countryman—Jones.

1793-94. DL: July 2. Belville—C. Kemble; Footman, Countryman omitted; Alithea—Mrs. Kemble; Lucy—Mrs. Heard.

1794-95. DL: October 22, April 15, 20, 30, June 3.

1795-96. DL: November 3, December 3. Lucy—Miss Mullan. —February 3. Lucy—Mrs. Heard. —April 15, May 18.

1796-97. DL: October 1. Sparkish—Bannister, Jun.; Alithea—Mrs. Goodal. —20. Harcourt—Barrymore. —May 18. Harcourt—Palmer; Sparkish—R. Palmer. —27. Moody—Swendall; Sparkish—Russell. —June 8.

CG: June 14. Moody—Murray; Harcourt—Barrymore; Belville—Toms; Countryman—Wilde; William—Abbott; Footman—Blurton; Servant—Curties; Sparkish—Knight; Alithea—Miss Chapman; Lucy—Mrs. Fawcett; Peggy—Mrs. Jordan.

1797-98. DL: September 26. Moody—King. November 22, January 16. Moody—Wroughton. —February 17. Peggy—Miss Molina. —May 9. Peggy—Mrs. Jordan; Lucy—Miss Mellon. —June 13. Alithea—Miss Mellon; Lucy—Miss Tidswell.

1798-99. DL: December 21. Moody—Dowton; Lucy—Miss Heard; Peggy—Miss Molina. —January 18, February 16. Moody—King; Peggy—Mrs. Jordan.

1799-1800. DL: March 30. Sparkish—Palmer.

DETERMINATION OF THE LEVEL AT WHICH COLLEGE TEACHING HAS OPTIMUM ACHIEVEMENT BENEFITS¹

RAYMOND F. HAWK

Director of Research, Eastern Washington College of Education

At the beginning of the present decade there was considerable interest in the study of the efficiency of various methods of college teaching. At the State College of Washington a study was set up by which the effect on student achievement of certain methods of teaching in specific social science courses was to be evaluated. This project was a cooperative endeavor in which the research was directed by the School of Education with the laboratory work being done in certain class sections of sociology, economics, history, psychology, and education.

The initial plan of the study called for the equating of class sections by use of various measures of student ability: namely, tests taken at college entrance, high school marks, college grades, and an initial inventory measure of course content. Similar plans had been used at other institutions. Analysis of the data at the State College indicated that the technique of matching class groups by the measures listed above was not a valid procedure. This method of equating groups did not adequately control the factors of potential ability of the students. Hence any conclusions regarding the efficiency of given class teaching procedures would be vitiated by this inadequate control of variables. This finding constitutes a negative result and raises at the same time questions regarding the validity of similarly conducted studies. The obvious need is for more adequate measures of potential ability.

From the work with the data assembled, however, there appeared a relationship which was formulated into a hypothesis stated as follows: *Students whose initial understanding of a course is low make significantly greater gains than do others in the class group; students highest in initial understanding make significantly smaller gains than do others in the class groups.*

This hypothesis was verified by a carefully outlined investigation in which a group of six hundred students from thirty-one sections in sociology, psychology, and principles of education was studied. These students were divided into four levels of initial understanding of

¹ Abstract of a thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Education and Psychology, State College of Washington (1939).

courses by use of the initial inventory of course content. Each of the four levels contained twenty-five per cent of the total group.

The criterion of achievement was the gain made during the semester as measured by the difference between the score on the initial inventory test and the score on an equivalent test used as a part of the final examination. Refinements of the data were made to insure that the amounts of gain for each quarter were not explainable by inadequacies of treatment. These refinements included (1) construction of objective tests which met the rigid requirements of good testing; (2) adjustments for sex and age so that each quarter group contained proportions of men and women of chronological ages similar to the total group studied; (3) correction of initial and final scores by regression to obtain statistically "true" scores; (4) weighting of the test items for difficulty to determine the amount of real gain made by each quarter group.

The refined data verified the hypothesis discovered in the first phase of the study and warranted formulating it into a definite conclusion. This conclusion is: Students entering classes with a degree of understanding that placed them in the lowest twenty-five per cent of the social science courses as evaluated in the research project make significantly greater course gains during a semester of work, as measured by tests commonly used in such courses, than do students in other quarter groups, and the least achievement gain is made by students who showed most understanding on entering the courses.

This extensive research project is one of the first to make a direct study of the level of student initial understanding at which the optimum gain in achievement is made. The study develops a technique for future research in this field. It raises the vital question of the purpose of higher education in general and specifically questions the desirability of college teaching which results in least progress for those students whose preparation is greatest for the courses they enter.

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PIONEER SOCIAL ADAPTATION IN LINCOLN COUNTY, WASHINGTON, 1875-90

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THE STUDY

This study of pioneer social adaptation in Lincoln County, Washington, is the last of three studies made by the writer between 1936 and 1941.¹ The method followed in making the study was the same as that used in the other two studies. The data were gathered in personal interviews with forty-three pioneers living in Lincoln County. The pioneer period described in this study extended from about 1875 to about 1890. The main point of view in this study, as in the two previous studies, is that pioneering was a process of social adaptation by which social adjustments were made to a new set of conditions and by which old social practices and institutions had to be modified and remodeled to serve pioneers to the best advantage.²

NATURAL AND HISTORIC BACKGROUND

Lincoln County is located in the eastern central part of the state.³ The land is high and much of it level, with the rest gently sloping, except the hilly and precipitous section that borders the Columbia River gorge on the north. The rainfall in the county from east to west ranges from 16 to 10 inches. Except in the northeastern part of the county, which contained some original scraggy pine timber, the county was

¹ See "Pioneer Social Adaptation in the Palouse Country of Eastern Washington, 1870-90," *Research Studies of the State College of Washington*, VI (1938), 131-59; and "Pioneer Social Adaptation in Northeastern Washington, 1885-1910," *Research Studies of the State College of Washington*, VIII (1940), 85-109.

² For the treatises on the American frontier, see the books listed in the footnotes of the two studies already cited.

³ Data in this section on natural and historical background are taken from *An Illustrated History of the Big Bend Country*, Part II (Spokane: Western Historical Publishing Company, 1904); W. S. Lewis, *The Story of Early Days in the Big Bend Country* (Spokane: W. D. Allen, Publisher, 1926); *Inventory of the County Archives of Washington, Number 22, Lincoln County*, "The Washington Historical Records Survey" (Seattle, 1942), pp. 1-31.

mostly prairie soil, covered with a fine growth of wild bunch grass. The soil at the beginning of the pioneer period was very fertile.

Although the Indians of the eastern Washington area did not have any permanent villages or residences in the territory now contained in the county, they had a number of camping places at several spots, and they had made several trails across the entire length and breadth of the county, with many by-trails and connecting paths. White fur traders, missionaries, gold miners, and travelers crossed the county at more or less frequent intervals from 1810 to 1860. After 1860 a few settlers began to trickle into the county. During the sixties and early seventies, two wagon trails were built across the county, one skirting the eastern edge of the county and the other running diagonally across the county from northeast to southwest. A few cabins were erected along these trails, and some of them later became stopping places and stores. From 1866 to 1872 some thirty families moved into the southeastern part of the county. From 1872 till 1882 settlers spread out all over the county. In 1882 the first railroad crossed the southeastern part, and in the next decade two other railroads were built across the county. Settlers arrived in great numbers after the railroads came. The county was legally established in 1883. The early pioneering period covered in this study lasted down to 1890.

THE PIONEERS

The forty-three pioneers interviewed in this study ranged in age from 64 to 92.⁴ All of them came to Lincoln County between 1876 and 1889. They had come from thirteen states and five foreign countries. Although most of the pioneers came to the county as young adult men and women, a number came with their parents when they were still small children. Inasmuch as twenty-five of the forty-three pioneers were women and eighteen were men, it appears that pioneer women

⁴The forty-three pioneers interviewed were Mrs. John Raymer, Mrs. Mary Driscoll, Mrs. Rose Moon, Mr. and Mrs. John McClure, Mr. and Mrs. George Smith, Mrs. Mary Capps, Mr. and Mrs. Gilbert Bentley, Mrs. Luella Plaster, Mrs. Eva Moore, Reardon; Mr. C. E. Ivey, Mrs. Hattie Wright, Mr. and Mrs. Ray Nichols, Mrs. Anna Freese, Mr. Ed Service, Mr. W. G. McClure, Mrs. Katie Reinbold, Davenport; Mrs. Bertha Engelsen, Almira; Mr. H. M. Hansen, Mrs. Martha Hegen, Mr. Ole Nygaard, Mr. J. K. Weismann, Mrs. Rose McGrath, Wilbur; Mr. George Finney, Odessa; Mr. and Mrs. George Lowe, Lamona; Mr. H. S. Bassett, Mrs. Belle Bethel, Mrs. Nellie Swenson, Mrs. Belle Talkington, Harrington; Mrs. Susan Cararan, Mrs. Elizabeth Ringwood, Miss Gertrude Ringwood, Mr. and Mrs. Frank McGlade, Mr. and Mrs. Robert Potts, Mr. J. F. Brislawn, Mr. and Mrs. J. J. Klein, Sprague.

live somewhat longer than men. Most of the pioneers seemed to be in good health, although a number of them were in the late eighties and a few were in the nineties.

MOTIVES FOR COMING

Motives of the pioneers or their parents for coming to the new frontier area were varied. One of the most frequent reasons given for coming was the desire for land and a home in the new area. Typical statements explaining this motive for coming were as follows: "We thought we could better ourselves out here. We came to get land." "Pa always had a mania for going West and settling in a new country. The rest of us didn't like it. Pa wanted all his sons to file on a piece of land and get a farm." "It was always my nature to go ahead and build. I was hunting a good stock farm." "We took Horace Greely's advice to go west and grow up with the country." "A poor man couldn't get a start in Iowa. Most of the early settlers around here came to get cheap land."

Next in order as the main reason for coming was the urging of a kinsman or a friend who had already settled in the county, or the advertising of railroad companies about the new opportunities for settlers. "Mother's brother was already here. He wrote back about the good land that was here to homestead. So we came out to take a homestead with him." "Lots of literature came to us in Germany [Baden] about the good land in the West of the United States." "Father had friends here. He came to take up a homestead." "We had relatives out here. They urged us to come out and join them." "I had an uncle who first came out to get land for his boys. He wrote to me to come out. I came out and first worked as a carpenter. Then I homesteaded."

Several pioneers stated their families came out to find better health. "Father wasn't well and we came out for his health." "We were looking for a country that had good water and where we would all be healthy." "I came from Nebraska for my health, and I soon got well out here."

Five of the pioneer men said they came out as young fellows to work as farm or railroad hands or cowboys, liked the country, and then homesteaded or bought land.

EXPERIENCES COMING

Ten of the forty-three pioneers came to the county by covered wagon. An old lady told the following story of her experiences in mak-

ing the trip. "We started out from Missouri as a train of three wagons. Soon there were thirteen wagons. We were scared about Indians all the way out. Once when several of us girls were picking gooseberries, we ran into a whole drove of Indians. We all screamed and ran back to the wagons frightened to death. Every night some of the men had to stay up and guard the cattle and the horses to keep the Indians from stealing them. Twice the horses were stampeded at night, and it took the men a long time to round them up and bring them back."

Another pioneer lady related experiences of a somewhat different kind that her family had in making the journey: "We started out in a prairie schooner. We came all the way in a wagon. There were thirteen wagons and thirty-two children in our wagon train. We were six months coming. Father stopped and worked a while at Baker, Oregon, to make a little money. Horse-stealers lurked about our camps and stole horses and mules. Several families were left without any work stock. One family's team got frightened at a train, ran right in front of the train, and was killed. We traveled 180 miles behind 8,000 head of cattle being driven to Oglalla, Nebraska."

A third pioneer, telling of the experiences of his journey out, said: "There were ten wagons in our train. We would travel some distance and then stop and lay over a few days to let our horses graze and feed up. One man hauled a young colt in his wagon during the day and would let it out at night to feed. The men had to take turns guarding the horses at night. We hauled water in barrels on the sides of the wagons when we learned there was going to be a long distance ahead with no watering places."

Most of the pioneers coming after 1882 came by train. Already in the seventies a number had come to San Francisco by train, then by boat to Portland, and up the Columbia and Snake Rivers to within a short distance of Lincoln County. Several of the pioneers came by emigrant train, a method of transportation used extensively by the transcontinental railroads to move emigrants and their belongings to the new frontier areas. One pioneer lady told the following story of her experiences on an emigrant train: "We came out by emigrant train. A group of us families came together. The train was made up of both passenger and freight cars. We had a cook stove in one of the cars and we cooked meat and baked bread. We cooked and ate together. Some of the families had chartered whole cars and they shipped all their stock, machinery, and household goods."

The pioneers coming out by train after 1885 usually came as individuals or as members of whole families. They had no stories to tell of exciting experiences of their journey to the new country.

STOCK-RAISING

The earliest settlers in Lincoln County were engaged mostly in raising stock. This was the industry to which they could most easily adapt themselves. The luxuriant bunch grass, the rich meadows, and the springs, lakes, and small streams in most parts of the county made it an ideal stock country. The great stretches of unoccupied and unfenced land, the scarcity of labor, the absence of railroads and local markets made stock-raising the easiest occupation for the settlers to enter. Livestock could be raised with little labor and could be driven long distances to market on foot. All the earliest pioneers told that one could get on a horse and ride for ten, fifteen, twenty, and even fifty and seventy-five miles in some directions without running into a fence.

One pioneer in the southwestern part of the county described stock-raising in that part of the county in the late seventies as follows: "Everybody on the creek [Crab Creek] raised horses and cattle then. The whole country was grazed. Bunch grass grew three and four feet tall. There were no fences anywhere. Every man had his brand for his livestock. We hardly ever fed during the winter. We didn't even try to keep the herds together. In the fall we would gather in the calving heifers. In May and June we had the round-ups. All the stockmen on the creek would ride together. The round-ups would start down on the river [the Columbia] this side of Pasco. We would come this way, riding the whole country, driving the stock, and corralling at different places. It required a month or longer to brand and separate the animals. Cook wagons, with rations and sleeping outfits, trailed along behind. There might be fifty or seventy-five men in a round-up. Many cattle and horses out on the open ranges were lost in the terrible blizzards of 1888 and 1889. We tried to keep some of the animals alive by dragging the snow off the bluegrass in the meadows along the creek. Grazing lasted till the railroads came and brought lots of settlers. All the government and railroad land was soon homesteaded and bought up by the settlers. When they began to farm and put up fences, the stockmen had to get rid of their herds."

Another old pioneer, living in the southeastern part of the county, near Sprague, gave a somewhat similar version of stock-raising in that

part of the county in the early days: "It was mostly cow-men and cattle when I came here as a boy in 1884. This was the best cattle country in all the Northwest because there was so much water and green grass around the lakes, and you could always sell cattle. People ate a lot more meat then than they do now. Some of the stockmen here drove herds of cattle of 2500 or 3000 all the way to Cheyenne, Wyoming (a distance of 1500 miles), where they were put on cars and shipped to Chicago, Omaha, and Kansas City. I often rode the range and slept out in camp for six or seven months in the year. Many a time I woke up in the morning and found six or eight inches of snow on my blankets. The fellows ran cattle here till the country was all fenced up."

Another pioneer told of his early experiences as a lad working for a stockman who raised horses: "I was an orphan boy. When I was thirteen, I fell in with a stockman coming from Walla Walla up here. I helped him with his horses till I was twenty. I rode the range from Lamona to Pasco. The horses had been brought up from Oregon and the mares tended to go back that way to foal. We had to drive them back about four times a year. We carried flour and baked bread and always slept out in the open. The horses we raised were a kind of race horses—smooth, spirited, enduring, and weighing 1000 to 1200 pounds. The horses were sold all over the Northwest. But after a while the country got over-stocked. All the ranchers got to raising horses. Finally, sometime after the railroad came in [the Great Northern in 1892], the horses were sold to a Montana horse-buyer and shipped to Miles City."

FARMING

As railroads approached the vicinity of Lincoln County in the early eighties and within a few years pushed across the county, swarms of settlers poured into the county and sought out the most favored agricultural spots for homesteads and farmsteads. Within the span of a decade practically all the good public lands in the county had been homesteaded, or preempted, or occupied as a timber-culture claim. Likewise, the railroad companies which had received large grants of land from the federal government had advertised their lands for sale, had sent agents through the Eastern and Middle Western states and even abroad to make contacts with prospective emigrants, had offered special passenger and transportation rates to families that wanted to

establish new homes in the West, and had rapidly disposed of most of their land suitable for agriculture.

As farming increased and stock-raising declined, another period of adaptation to the soil began. The settlers had many adjustments to make in their new agricultural environment. They had to adapt their farming operations to the soil, climate, available technological equipment, markets, and transportation facilities. It was soon recognized that the rich prairie soil, the limited rainfall, and the relatively cool summer climate made Lincoln County an almost ideal country for the raising of wheat and other small grains.

The pioneers reported their early struggles in getting primitive sod broken and ready for cultivation. The plowing was usually done with twelve-inch plows and two-, three-, or four-horse teams. Grain was sown by hand, being broadcast on foot with a sack slung across the shoulders, on horseback, or from the rear of a wagon. Several of the pioneers mentioned the use of the shotgun seeder.

At first the grain was cut by scythe, or cradle, or mower, or dump reaper. Several pioneers reported the use of the flail for separating the grain from the straw and chaff, and a few told of the use of horses and oxen for tramping out the grain. The number of acres of wheat a pioneer family could raise with the use of these primitive methods was very much limited. Almost all the pioneers who reported the growing of wheat in the first few years of residence in the county stated that only a small acreage could be planted and harvested.

It was only a few years, however, until the pioneers were able to change from these primitive methods to gang plows and harrows, drills, binders, headers, threshers, and even combines. Along the railroads little towns and trading places were established. Hardware merchants offered all kinds of latest small-grain machinery for sale. Local wheat-buyers and elevator companies offered the market price for all the grain the pioneer farmers had to sell. As the new machinery and market became available, the pioneers began to adapt their farming operations to the exigencies of the new technological and market situation.

But most of the Lincoln County pioneers did not go in exclusively for wheat-farming. Almost all of them reported the raising of some cattle, sheep, horses, and hogs, for domestic as well as for market purposes. A few of the pioneers even continued stock-raising as their primary occupation down into the late nineties. Many of them sold butter, eggs, and chickens at the local country and village stores.

Farm work was done chiefly by the pioneer family, quite often with the assistance of a hired laborer or two. Pioneer women reported riding ranges to bring in the stock, driving teams at various kinds of farm work, and helping with all kinds of farm chores.

By 1890, after some fifteen years of pioneering, the United States Census showed the frontier county of Lincoln to have 1327 farms with an average acreage per farm of 303 acres. Only 29 farms contained less than 100 acres, whereas 1175 farms contained between 100 and 500 acres, and 123 more than 500 acres. More than ninety-five per cent of these farms were held by owners. The farms were still rather heavily stocked with animals, having on them a total of 21,642 cattle, 15,863 horses, and 12,724 sheep. The population on the farms was 6837, the great majority of whom were native-born Americans.⁵

Although most of the Lincoln County pioneers who stuck to farming till after the turn of the century prospered and accumulated a modest and comfortable farm estate, practically all of them remembered some years of severe hardships, particularly when the blizzards froze most of their stock and when in the early nineties they were able to get only fifteen, seventeen, or twenty cents a bushel for their wheat. Many pioneers lost their farms during these years of hardships. Those who were able, however, to hold on to their farms till after the middle of the nineties made good at farming, and most of them were able to retire from active farming in their old age.

TRADE

The pioneer farmers settling in Lincoln County had to adapt their trading practices to a commercial situation of distant and limited markets. The settlers arriving in the seventies had to go as far as Walla Walla (a distance of 100 to 120 miles) to purchase supplies and to sell the few products, other than live-stock, which they could sell at all. The making of such a trip required two to three weeks. A little later, Colfax, about 60 to 80 miles away, was used as a trading place by a number of the pioneers. Still later Spokane, thirty to fifty miles away for many of the early settlers, was an important trading center. To these distant trading places the pioneers usually made only one or two trips a year. Eggs and butter were sometimes preserved on the

⁵*Report on the Statistics of Agriculture in the United States at the Eleventh Census* (1890) (United States Government Printing Office), pp. 192, 193, 271, 312, 352.

farms several months in advance of trading trips by being packed away in brine. Products purchased in the distant markets were clothing, furniture, hardware, farm machinery, and a few groceries like sugar, coffee, and spices. There were a few small country stores scattered along the main roads crossing the county at which the settlers could buy a small variety of groceries, clothing, and hardware. Little wheat was hauled to markets until the railroads came in the early eighties and provided shipping stations. Cattle and sheep were driven out on the hoof. The newly arriving settlers furnished a good market for horses.

Three other markets for a limited amount of products raised by the early settlers were the railroad camps feeding the workers building the railroads, placer miners in the county along the Columbia River, and the Old Spokane military fort, where a battalion of soldiers was kept in the early days. One very thrifty German pioneer family found that the military fort was the best market for most of their farm products in the very early days.

TRANSPORTATION

The Lincoln County pioneers found it necessary to adapt their travel and transport operations to such facilities as were available. Across the county ran several important Indian trails with many short by-trails which the settlers used to good effect. An important military road extending from Walla Walla to Colville skirted the eastern boundary of the county. A shipping company had early constructed a road running from White Bluffs on the Columbia River to the Pend Oreille River, northeast of Spokane. Off these main highways and trails, the pioneers traveled over the prairies on horseback, in wagons, and in sleds and sleighs, marking out trails that later became roads. One pioneer described the problem of transportation as follows: "Our roads were bad, little more than trails. They were axle-deep with mud in winter and with dust in summer. Lots of the time in winter the only way we could get out from our place was on snowshoes."

Horseback-riding was an almost universal method of travel in the county. One pioneer lady remarked, "My husband and I even did our courting on horseback. We went everywhere on horseback. But I always rode the lady's way." Another pioneer lady, now in the seventies, said: "I used to ride for the cattle every day. We used to do all our visiting on horseback. We always had good times riding. I wish we were back in the horse and buggy days now." It was not uncommon for children

to ride six and eight miles on horseback to attend school. Two-wheeled carts and the heavy farm wagons were also much-used methods of travel. Buggies and hacks were regarded as a sort of luxury in the early pioneer days, and few of the settlers could afford them.

MAIL AND NEWSPAPERS

The first post offices established in the county were at the little country stores and at farm houses along the roads that had been built across the county. The mail was brought to these points by stages and freighting wagons coming from Walla Walla, Spokane, White Bluffs, and other places of general dispersion. Many settlers went as far as ten or fifteen miles to get their mail at these little country post offices. When the railroads crossed the county and little towns and shipping points grew up, post offices were established at more convenient places for the settlers. A common practice among practically all the early settlers was for any person going to the post office in town or country to bring the mail for all the settlers living in his neighborhood. The pioneers regarded themselves quite lucky to have such accommodations for getting mail. One old lady said, "We never had to go more than four or six weeks without mail."

CREDIT

Most pioneers migrating to frontier areas lack capital and need credit. There is also a scarcity of capital in these new areas. Most of the pioneers reaching Lincoln County needed capital to build homes, to buy farm machinery and stock, and to purchase the means of subsistence until they could produce livestock and crops and market them. One old pioneer laughed and exclaimed, "I even had to borrow \$100 to get married on!" The pioneers' adaptation to this situation of much-needed capital, on the one hand, and a great scarcity of capital, on the other hand, was made in several ways. The one thing that the pioneers remembered most vividly was the high rate of interest they had to pay to borrow money. An old Swedish pioneer said he was required to pay thirty-seven per cent interest on money that he borrowed from a farmer, which he "just had to have." The most frequently mentioned rate of interest paid by the pioneers in the earliest days was two per cent a month or twenty-four per cent a year. A number reported they had paid eighteen per cent. One pioneer explained the high interest rate as follows: "The money-lenders always charged two per cent a month, one per cent for interest and one per cent for risk." As banks

were established in the little towns and the agents of mortgage companies began to operate in various parts of the county, interest rates began to drop and by the middle eighties and early nineties had come down to ten and twelve per cent.

The village and small-town merchants were generally liberal in their extension of credit to the early pioneers. They "carried" for six months, a year, and sometimes even two years farmers who were struggling to get started in farming operations. Of course, the interest on these credit accounts was included in the high price the farmers were charged for the goods they bought. Merchants had to take considerable risk in opening accounts with pioneers whose credit rating was unknown to them. At the beginning of the opening of a credit account, merchants usually required frequent, regular payments. As merchants and pioneers became better acquainted, however, the practice developed of allowing settlement of accounts once a year or after crops had been harvested and sold.

HOUSING

The first concern of the pioneer when he took up residence on his new farm was to house his family. Housing, too, became an adaptation to the available materials and facilities of construction in the new area. Most of the county was prairie land and lacked logs and lumber close-by for building houses. One of the earliest pioneers stated that, when he first came to the county, he knew about twenty families living in dug-outs along Crab Creek. Pioneers reported traveling distances of sixty and eighty miles to get logs or lumber to erect the first cabins built on their farms. One pioneer said that, to build his cabin, he hauled lumber from Walla Walla, a distance of more than a hundred miles. A pioneer lady explained the early housing situation in her community by saying, "Everybody was short of means and just built little shacks." Most pioneers built their cabins with their own hands. One old lady, telling how she herself had helped to build their house and barn, added, "I was pretty good with the hammer and saw." As the pioneers prospered, one of the first things they did was to build better dwellings. Several pioneers told how they progressed from dug-outs to small cabins and then to comfortable houses. The writer found three pioneers still living in log houses that had been built in the eighties and since remodeled.

Household equipment was meagre for practically all pioneer homes. Beds were often frames built against the wall. Chairs were frequently made from good boxes and barrels. One pioneer woman said, "I cooked over the fireplace many years, and I thought it was heaven when we bought a little cast-iron stove." A number of pioneers reported that they had to use their little stoves for both cooking and heating their houses. Strange as it may seem, none of the pioneers complained of having suffered from extreme cold in their little poorly built cabins, though they experienced a number of bitterly cold blizzards in their early years of residence in the county.

NEIGHBORLINESS

The early pioneers of Lincoln County in their interviews with the writer stressed and reiterated two things about neighbors—the distance some of them lived apart and their friendliness and kindly, mutual helpfulness. The lonely pioneer family had much need for neighbors. A number of families at first had no neighbors closer than three or four or even five or six miles away. One pioneer explained about visiting this way: "Our nearest neighbor at first was fifteen miles away. We went visiting to hear and learn things. We would sit up all night swapping news." A pioneer lady who had come to the county as a little girl declared, "I could ride twenty miles and not see a house." Another said, "We would take a notion to go visiting, just pack up the whole family in the wagon, go in our everyday clothes, and spend the week-end with some neighbors we hadn't seen for quite a spell." At least half the pioneers stated that people visited more in the early days than they do now and that neighbors were more friendly with one another then. Practically all the pioneers reported that they had swapped work with neighbors for harvesting, threshing, and other types of farm operations requiring team-work. Invariably the pioneer neighbors went to each other's assistance in time of sickness and disaster.

RECREATION

Although a few pioneers stated that their only recreation was "just hard work," most of them pleasantly recalled the "good times" they had had participating in several types of recreation adapted to the necessities of pioneer life. Forms of recreation most frequently mentioned were dances, parties, socials, picnics, patriotic celebrations, races, circuses, and sleighing parties. The rather spontaneous character of the recreation of the pioneers was emphasized by one pioneer, "There were

not so many lodges and other organizations then, and the people were not so much classified as they are now." One of the pioneers who came earliest to the southwestern part of the county described the "get-togethers" in his community as follows: "People would come from up and down the creek fifty and sixty miles for a big dance. They would stay for several days. The women would cook and everybody would visit. One fellow would come up from Moses Lake to play the fiddle for us. You had to go a long ways to get enough people together for a big party when I first came here." An old lady gave the following account of pioneer recreation in the eastern part of the county: "We had lots of parties, dances, and pot-luck suppers. We would go to the schoolhouses and around among the neighbors for our parties and dances. Everybody in the community was welcome. When we were going to have a big party or dance, the cowboys would get on their horses and ride for days and let everybody know." Another pioneer threw a little further light on some of the parties and dances in his part of the county by remarking, "We always had a floor man to carry out the drunks."

SCHOOLS

The pioneer schools in Lincoln County were an adaptation to sparse population, sharply limited public school funds, scarcity of qualified teachers, and the friendly cooperative spirit of the pioneers. When the first settlers arrived in their respective communities, there were no organized districts or schoolhouses. The first schools were usually private subscription schools running for a few weeks or a few months. Frequently a homesteader's deserted shack was converted into a schoolhouse. One pioneer reported that the first school he attended was in a dug-out. When several families with children had moved into a community, the pioneers would get together and build a schoolhouse. In one district, in addition to cooperating in building the schoolhouse, each pioneer constructed the seats for his own children. Some of the shortcomings of a three-month school term were indicated by one pioneer, who said: "We had only three months of school a year. They were taught by fifteen- and sixteen-year-old girls. We always forgot what we had learned the year before and had to start all over again." Several of the pioneers stated that they rode horseback six, seven, nine, and even eleven miles to attend school. One pioneer reported the sad case of a small boy caught in a blizzard and frozen to death on his way home from school.

Practically all the pioneer schoolhouses were used for social gatherings. Types of community activities held in the schoolhouses were dances, parties, debates, "literaries," plays, Sunday Schools, church services, Grange and farmers' union meetings, political speaking, voting, and singing schools.

CHURCHES

Pioneer religious adaptation in Lincoln County followed the same line of development that had been practiced in American frontier communities for 150 years. In the first few years of settlement most communities were generally without any religious services. The first worship was usually in some pioneer family's home when an itinerant minister happened to be passing through the community and the people of a neighborhood were invited to assemble for prayer and worship. Next, as preachers came regularly to the communities and schoolhouses were built, preaching services and Sunday Schools were held in the schoolhouses. Both Sunday Schools and preaching services in the schoolhouses were almost always non-denominational. As the country became well settled, camp-meetings or revivals were held yearly in a number of places in the county. The camp-meetings usually lasted a week or more. Ministers of several denominations were on hand to preach. The people came from miles around, pitched tents, prepared their meals and slept on the spot, visited, and listened to three or four sermons each day.

Although the majority of the pioneers were religious and attended divine services when these services were available, many pioneers were not sufficiently interested to attend church or Sunday School. A pioneer in one community said: "The people around here didn't attend church. There was no church here, and the other churches were too far away for the people to go." Another pioneer explained, "The early settlers here were not church-minded; they were not religionists." A pioneer lady who had never belonged to any church explained, "My father and mother left the Mormon church. We children never belonged to any church out here." One old pioneer who had never taken much interest in churches said: "We never had any church in our community. Some circuit riders used to come and pass around the hat. The schoolhouse was usually filled when they came. But they never got much from us."

But the traveling missionaries were persistent in carrying the gospel to the pioneers. One early settler told of this persistence in a certain

community where no religious services had ever been held: "The Salvation Army and the other missionaries came in here and followed the harvesting and threshing crews around like they were heathens. The fellows that went to their meetings did it just because they wanted a change." In another community several pioneers told how two itinerant preachers used to come, set up their tent, and preach for a month, trying to make converts but usually with indifferent success.

That the camp-meetings served the social purpose of getting the pioneers acquainted over a wider area was testified by several of them. One old lady said: "When we went to camp-meeting, we saw people who came from all around. It was hard to imagine so many people in the country." Another pioneer explained, "Camp-meeting was sort of like a circus. The preachers put up a big tent and the people staked their tents around it. The meetings would last for about two weeks. Everybody would come and have a good time."

Two old German pioneers who had early become prosperous reported that they built small Lutheran churches largely at their own expense and with their own labor, in order that the people of their communities might have places to worship. Only a few churches, however, that were built in the open country by the early Lincoln County pioneers are still in existence. Most of the churches attended by the farmers today are in the villages and small towns.

MEDICAL SERVICES

The earliest pioneers of Lincoln County were forced to adapt themselves to primitive and sharply limited medical services. One of the oldest pioneers said: "There was no doctor around here for five years after we came. The people didn't even have midwives at first. When babies were born, women neighbors went to help. My mother went time and again to help her neighbors when babies were arriving." Another pioneer explained the limited medical services in her community in these words: "The first doctor out here lived on a farm and farmed. He was a kind of farmer-doctor. But few people here called a doctor in the early days. They were all too poor. The old women assisted at the birth of babies. There were a few midwives about. One old lady had bad luck and she quit the practice." Still another aspect of limited medical services for the pioneers was explained by a third pioneer, who said: "Old women rode over the country with their saddlebags. Mother had several doctor books, and she always tried to figure out what the

trouble was when she was called. There was no real doctor close about here. A person had to be very sick if a doctor was called." One of the oldest men, who was one of the earliest pioneers in the southwestern part of the county when it was inhabited mostly by cowboys and hachelors, said: "There was very little sickness around here till women and children begun to come. For a long time we didn't need any doctor. But when they begun to come we had to get a doctor." The price charged by doctors coming out from the little towns was prohibitive for many of the pioneers, as was indicated by the following statement from one of them: "There were several doctors in the towns fourteen or fifteen miles away. But they charged a dollar a mile to come out in the country. Most of the people couldn't pay this much; so they just had midwives. There was not much sickness around here anyway except some kid diseases. Some of the old women usually had remedies for these."

By and large, the pioneers were a healthy lot. Over and over again, the writer was told that very few adults became sick in the pioneer communities in the early days. Not a single epidemic was reported in any of the communities during the pioneer period. There were a few cases of typhoid fever and small-pox among the earliest settlers, but these two diseases never reached the stage of an epidemic.

As the little towns grew and developed in the late eighties, doctors came in and established their practices that reached out into all the surrounding areas. By this time most of the pioneers were beginning to receive incomes from the sale of their products, so that they were able to call doctors when they were needed. The practice of these village and town doctors extended out into the open country for ten to fifteen miles. These doctors traveled by horseback, two-wheeled carts, buggies, and livery teams.

One old pioneer, perhaps expressing the sentiments of others also, was very thankful that there was very little surgery in the early days: "There were a few fellows around here who professed to be doctors, but we didn't need 'em very much. Nobody much ever got sick, and if they did, they didn't have to have an operation like the doctors think you must today. One of my neighbors worried himself to death because he lost \$35,000 in a bank failure. If it had been today, he would have had to have an expensive operation before he died."

LAW AND ORDER

In frontier communities both crime and its control become adaptations to the circumstances of pioneer life. Criminals engage in those practices that are most profitable and most difficult to repress. Pioneers in most of the communities of Lincoln County reported cattle and horse stealing in the early days. The grazing of thousands of horses and cattle on the ranges without the assistance of herders made these animals easy prey for the thieves. How baffling this stealing of livestock was in the early times was brought out in the following story of one pioneer: "There was a whole lot of horse and cattle stealing here. They were both high-toned and low-toned fellows doing it. They would mix and brand the stock. We organized several times to stop the stealing. One fellow joined our organization to stop the stealing. But he found his brother was one of the ringleaders in the gang of thieves, and he had to drop out. Some of the fellows around here who were always going to church had the wrong cattle." A pioneer who lived in the northern part of the county on the brinks of the Columbia River described the situation with respect to stockstealing in his part of the county as follows: "For a long time there was stealing of horses and cattle in this community. We had to elect and appoint vigilance committees to try to catch the rogues. But nobody ever heard of them catching anybody. Several suspicious characters moved away, and one or two died. The rustlers would brand the calves that belonged to somebody else, and then they would claim them. The owners would never know when some of their stock was going to come up missing." One old lady stated that in her community the cattle rustlers were so bad that two brothers who came into the community and started raising cattle had to quit because nearly all their cattle were stolen. One pioneer reported that his father had as many as twenty horses and fifty cattle stolen in one year in the late eighties.

Repression of stock-stealing in a large county with open ranges required years of cooperation among the pioneers and vigorous prosecution by the law-enforcement officers. One of the earliest pioneers in the southeastern part of the county stated that "in the very early days a few horse thieves were caught and hanged by the ranchers." Although the local vigilance committees and stock associations were not always entirely successful in stopping stealing, they made it increasingly risky for the thieves to operate through the county. A number of the rustlers were indicted and jailed. One thief was caught when he delivered

cattle with the wrong brand to the Old Spokane military fort. Hides of the cattle he had stolen and sold to the fort were brought into court and used as evidence to convict him. Although it was generally difficult to get sufficient evidence to convict men indicted for stock-stealing, a few trials resulted in convictions and the sentences imposed by the court and the publicity given to the cases had a deterring effect upon the thieves who were never caught. Stock-stealing, however, was not entirely eliminated until farming supplanted stock-raising as the main occupation in the county. As the land was settled and fenced and the herds of range horses and cattle reduced and sold off, stock-rustling practically disappeared from most of the pioneer communities.

The only other civil disorder typical of frontier communities reported by the pioneers was the "wild times" that a few gangs of cowboys would stage occasionally in the little towns. When they drank too much, they would sometimes race up and down the streets, shout and yell, fire their pistols into the air, and ride into saloons and a few other places. A very pious woman pioneer living in the western part of the county made the following comments about disorder in the early days in the village in which she lived: "The cowboys were just awful to get drunk. There were all kinds of them here at first. And there were other rough fellows here too, some who had come from jail, and some from working on the railroads. The cowboys would abuse their ponies terribly. There were Indians about here, too, and some of the white fellows would get the Indians drunk to get their wives away from them. Some nights there was so much carousing and shooting that I didn't sleep all night." One old pioneer who traveled much over the county in the early pioneer days, however, stated that there "was very little fighting and shooting in this county in early days," and he thought there was very little disorder. And one kindly old woman whose husband hired a number of cowboys in the early days defended the cowboys in these words: "A lot of people thought the cowboys were rough and lawless, but we found most of them were real nice fellows. Occasionally when they got off to town, they would do some celebrating by drinking too much. But they always behaved themselves and acted like gentlemen at our ranch."

SOCIOLOGY AND PIONEERING

The pioneering period in Lincoln County, in most sections of Washington, and in the nation at large came to an end a half to a quarter

century ago. Almost none of the American sociologists have exploited pioneering as a field of sociological study. But our present-day American society and social institutions are deeply rooted in the two hundred years of frontier experiences of Americans who started civilization anew in successive frontiers across the continent. As the various aspects of sociology are more thoroughly studied, historical sociology will find a larger place in research studies. If we are to have a genuine treatise on the historical sociology and the cultural traditions of early America, it will be necessary for many sociologists to dig into the pioneer past of hundreds of American rural communities. The principles of cultural and social evolution can be no better discovered and illustrated than in the facts of the beginnings of American pioneer communities. The three sociological studies of pioneering in Washington, of which this study is the last, are offered to sociologists who may be interested in this phase of sociology as only a very small and modest beginning. Every rural community in America had a pioneer period. In most of these communities the old living pioneers who knew the life of the frontier first hand are gone. But there are many facts of pioneer social experiences left behind in such sources as newspapers, diaries, courthouse records, church and lodge minutes, school records, account books, house records, church and lodge minutes, school records, and account books, which are gold mines for historical sociologists who would be interested in reconstructing the pioneer past of America.

FRANCISCO BOULIGNY'S ABSENCE FROM LOUISIANA, 1775-77

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Although the establishment of the fact of Don Francisco Bouligny's absence from Louisiana may seem only a biographical and historical detail of colonial times, it may have some bearing on the presentation of a truer picture of Louisiana's troubled colonial history. Bouligny was esteemed by Don Alejandro O'Reilly, the vigorous successor to the vacillating first Spanish Governor of Louisiana, Don Antonio de Ulloa. He was himself Governor of Louisiana in 1784 and military commandant for a considerable period toward the end of his life.¹

In all probability, Bouligny would not have exchanged his lot in Louisiana for any other, for he seems to have been happy there and he was a good organizer and director of all things colonial. Spain could boast of only too few colonizers of his character and ability. His life was not all smooth sailing, however, and the difficulties he encountered may help to explain his absence from the province from May 12, 1775, to April 11, 1777. His biographers are brief in their treatment of him and imply that he never left the colony. French even states categorically that he did not leave Louisiana.²

That Bouligny left Louisiana on May 12, 1775, is indicated in the following letter³ from Don Luis de Unzaga y Amézaga, the Governor,⁴

¹ Although the name "Bouligny" appears to be French, it is in reality a corruption of the Italian "Bolognini." The family came from Milan to Marseille (where the name was changed) to Alicante in Spain, where Don Francisco was born in 1736. Cf. Babbe, Vieilh de Boisjolin, et Sainte-Preuve, *Biographie universelle et portative des contemporains ou Dictionnaire historique*, etc. (5 vols., Paris, 1836), I, 580; Grace King, *Creole Families of New Orleans* (New York, 1921), 291 et seq.; and Alcée Fortier, *A History of Louisiana*, (4 vols., New York, 1904), II, 20-23.

² B. F. French, *Historical Memoirs of Louisiana* (New York, 1853), 182n: "In 1762 he [Bouligny] went to Havana with his regiment, where he remained until he was ordered to join the expedition to Louisiana After the departure of O'Reilly for Spain, Col. Bouligny remained in New Orleans at the head of his regiment, until he was ordered to join the expedition of Gálvez, which took Mobile and Pensacola in 1780-'1." In another article I propose to treat in detail his difficulties, described as the "Bouligny affair."

³ This and all other letters quoted are in the *Papeles procedentes de Cuba* in the *Archivo General de Indias*, in Seville. Only the numbers of the *legajos* in which the letters are to be found will be cited hereafter. This letter is in *Legajo* 1146. In the quotations, italicized parts of words are solutions of abbreviations.

⁴ He was Governor of Louisiana, installed by O'Reilly, from December 1, 1769 to January 1, 1777. See John W. Caughey, *Bernardo de Gálvez in Louisiana, 1776-1783* (Berkeley, 1934), pp. 44 and 61.

to the Marqués de la Torre:⁵

Mui señor mio: En esta ocasion marcha el Capitan de este Batallon don Francisco Bouligny que por la vía de España pasa a los Reinos de Francia á arreglar negocios de familia en virtud del Real permiso que ha obtenido. Participolo a V. S. para que se digne prestarle los auxilios que necesite.

Dios nuestro señor guarde a V. S. los muchos años que deseo. Nueva Orleans, 12 de Mayo de 1775.

B. I. m. de V. S. su mas atento servidor
Luis de Vnzaga y Amezaga

Señor Marqués de la Torre

Apparently the *Real permiso* referred to above was for the period of a year, for on April 18, 1776, Don José de Gálvez, Minister of the Indies,⁶ wrote to Unzaga from Aranjuez, on Bouligny's request for an extension of his leave:

Concede el Rey prorroga por seis meses a Don Francisco Bouligny Capitan del Batallon de esta Provincia para pasar a Francia a recaudar su Erenia de su mujer.⁷

If the original leave was for a year, this extension would have made the closing date of the leave November 12, 1776. I am inclined to the opinion that a further extension was allowed him, since, in spite of his rather voluminous correspondence,⁸ I find no letters written in Louisiana or Cuba from, to, or about him until April 11, 1777.⁹ This, however, obviously does not preclude the existence of such correspondence. The fact that the letters ordering him paid for the period of his absence are dated at Madrid, December 6, 1776, would argue for an earlier

⁵ Don Felipe Fons de Viela, Marqués de la Torre (1725-1784), Governor and Captain General of Cuba, governed from November 18, 1771, to June 12, 1776. Cf. Antonio José Valdés, *Historia de la Isla de Cuba y en especial de la Habana* (1813), in *Los tres primeros historiadores de la isla de Cuba* (3 vols., Habana, 1876-1877), III, 263.

⁶ He was appointed to this important position on the death of Don Julián de Arriaga, which occurred on January 28, 1775. See H. I. Priestley, *José de Gálvez, Visitor-General of New Spain (1765-1771)* (Berkeley, 1916), 6n.

⁷ Legajo 174. The transcriptions of this letter and of three others quoted below (two of December 6, 1776, without marginal notes and that of May 13, 1777) were very kindly prepared for me by Dr. Roscoe R. Hill, of *The National Archives*, Washington, D. C.

⁸ Except for a number of letters of 1785, in E. C. Burnett, "Documents Relating to Bourbon County, Georgia, 1785-1786," *The American Historical Review*, XV (1909-10), 66-111 and 297-353, little of Bouligny's correspondence has been printed.

⁹ Exception would have to be made, of course, of letters mentioning him, written before November 12, 1776. I find no order covering a second extension of his leave, but see the letter cited in note 14, below.

return to Louisiana than I have indicated. It is worthy of note in this connection that the actual payment was not ordered in Havana until May 10, 1777. Three letters covering this matter follow:

José de Gálvez to the *Gobernador interino*¹⁰ de la Luisiana, Madrid, December 6, 1776.¹¹

R. O. Por la que se manda que al Capitan del Batallon de esa Provincia Don Francisco Bouligny se le satisfagan los sueldos que ha dejado de percivir en el tiempo que se la [le?] concedió licencia para fines del Real servicio. Acompaña Decreto e informe.¹²

The second letter is likewise from José de Gálvez to the *Gobernador interino* de la Luisiana, Madrid, December 6, 1776:¹³

Se previene mandar que al Capitan de este batallon Don Francisco Bouligny se le satisfagan los sueldos que dexo de persibir durante su ausencia por fines del Real Servicio.

The third of these letters, a Royal Order with marginal notes added in New Orleans and Havana, repeats the order for payment of the two previous letters and gives us the additional information that Bouligny overstayed his leave, a fact which lends support to my contention that his absence exceeded the period of a year and a half. The letter is again from the Minister of the Indies¹⁴:

El Rey manda, que al Capitan del Batallon de esa Provincia don Francisco Bouligni que se ha detenido mas tiempo de la licencia que se le concedió para fines del Real servicio, y restituye ahora, se le satisfagan los sueldos que ha dejado de percivir. Dios guarde á V. S. muchos años. Madrid 6 de Diciembre de 1776.

Joseph de Galvez

Señor Gobernador interino de la Luisiana

A marginal note, upper left, reads:

Pase a la contaduría para su cumplimiento.

[Bernardo de] Galvez

A marginal note, lower left, reads:

Por oficio de esta Capitanía general de 10 de Mayo, y Decreto de la Yntendencia

¹⁰ His nephew, Don Bernardo de Gálvez, whose appointment by Royal Order to succeed Don Luis de Unzaga y Amézaga as Acting Governor is dated September 19, 1776. He did not enter into the full title of Governor until August 18, 1779. Cf. J. W. Caughey, *op. cit.*, 67 and 152.

¹¹ Legajo 569.

¹² There is also a covering letter of December 5 which mentions this *Real orden*.

¹³ Legajo 174.

¹⁴ Legajo 569.

del mismo día, se han pagado de contado seis cientos pesos fuertes, a buena cuenta y a descontar del situado. Le previene en caucion de la Real Horden. Havana 10 de Mayo de 1777.

Martin Navarro¹⁵

That Boulogny was not idle during his absence from Louisiana is attested by the fact that during this time he prepared a long memoir on Louisiana¹⁶ and presented it in person to the Minister of the Indies for transmission to the King, Carlos III. He likewise secured for himself the enviable position of Lieutenant Governor of the Province.¹⁷ These may have been the primary, rather than the secondary, reasons for his request for a leave of absence in the first place.¹⁸ His commission as Lieutenant Governor was apparently not well received in Louisiana, even by the Acting Governor himself,¹⁹ who eventually went so far as to deny Boulogny's right to the position, the Royal Dispatch to the contrary notwithstanding.²⁰ In any event, trouble began in this connection not long after Boulogny's return to Louisiana, if it had not already begun during his absence. I have placed the terminal date of his leave at April 11, 1777, the date of Don Bernardo de Gálvez's confirmation

¹⁵ This note was apparently written hurriedly and carelessly. The signature and the words *contado* and *situado* are doubtful, but possible readings, almost illegible.

¹⁶ Entitled "Noticia del estado actual del Comercio y Poblacion de la Nueva Orleans y Luissiana Española; y los medios de adelantar aquella Provincia," and written in Spain in August, 1776. MSS of this memoir, an edition of which I have in preparation, are in the Museo-Biblioteca de Ultramar (Madrid), the Howard-Tilton Memorial Library of Tulane University, and the Library of the State College of Washington. Excerpts have been printed in translation by Alcée Fortier, *op. cit.*, II, 25-55.

¹⁷ In a *Real Despacho de Teniente Gobernador*, dated at San Lorenzo, November 28, 1776. *Legajo* 566.

¹⁸ The primary reason is stated in two letters quoted above. See notes 3 and 7.

¹⁹ See note 2, above. Don Bernardo de Gálvez came to Louisiana shortly before September 19, 1776, at the age of about 30, while Boulogny, ten years his senior, was still on leave in Spain.

²⁰ Cf. Gálvez's own correspondence to his subordinates, confirming Boulogny's appointment: letters to Mézières, Grand Pré, Belli(s)le, Cantrelle, DeClouet, Dessales, Dutisné, Judice, Robin, Villiers, and Leyba, all of April 11, 1777, and one to Francisco Cruzat, dated June 7, 1777. Cruzat also received the letter of April 11th, as he reports in a letter to Bernardo de Gálvez, March 31, 1779. Don Fernando de Leyba's is reported in a letter to him from Gálvez, October 21, 1778. All of this correspondence is in *Legajo* 1. It is just possible that a letter from Don José de Gálvez to the *Gobernador de la Provincia de la Luisiana*, dated at Aranjuez, May 13, 1777, may have some bearing on this point: "Se pide informe de los fondos de los Boulognys y de Don Francisco Boulogny . . ." (*Legajo* 174). Note that Don José de Gálvez is now (since January 1, 1777) addressed as Governor, not Acting Governor.

to his subordinates of Boulogny's appointment as Lieutenant Governor.²¹

Boulogny's own words in regard to his absence form the best testimony that can be mustered. A note at the bottom of the title page of the Tulane MS of the memoir on Louisiana reads: "Presentada en propia mano al *Excelentísimo Señor Don Josef de Galvez* Ministro de Yndias por el mismo autor en 10 de Agosto de 1776 en San Ildefonso." The State College of Washington MS closes with the word "Madrid," as indication of the place of composition. In his Introduction to the memoir, Boulogny writes ". . . con el objeto de presentarlas [i. e. las reflexiones] un día delante del trono, aprovechando la oportunidad que me ha facilitado la buena acogida del Ministerio, y hallarme en la Corte pronto a regresar a aquel país."²² Three additional scattered references in the memoir, each demonstrating his presence in Spain, furnish the concluding evidence on Boulogny's absence from Louisiana. He writes: "Las casas están hechas con madera, ladrillo, y cal, al modo de esta Corte . . . ;"²³ ". . . una barraca, o cabaña como las que hacen aquí en la huerta de Orihuela [in the province of Alicante, Boulogny's birth-place] . . . ;"²⁴ and "Fuera también bentajoso que algunas casas de comercio de esta Corte"²⁵

²¹ See note 20.

²² State College of Washington MS, p. 9, Tulane MS, p. 6.

²³ MSS, pp. 58 and 40, respectively.

²⁴ MSS, pp. 61 and 43.

²⁵ MSS, pp. 126 and 91.

RELATIONSHIP OF HOME BACKGROUND FACTORS TO STUDENTS' CHOICE OF PRESIDENTIAL CANDIDATE¹

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The vote of the individual, the prime essential in popular government, has in recent years been a subject of considerable study and research. This research has been varied and has approached the subject from many sides, but it has always been directed toward one end: the more thorough understanding of the vote of the individual in respect to its function in democratic government and its value as a criterion of public opinion or will.

Up until the present, studies have been directed toward the analysis of the vote cast in elections in relation to geographical and ecological factors rather than toward the analysis of the vote of the individual. Recently the value of the vote cast in an election as a criterion of public opinion or will has begun to draw the interest of many students of politics. One of the questions now raised is: What factors are related to the votes cast by individuals? The studies which have been made in an attempt to gain an answer to this question are at the present limited in number.²

The extent to which the vote of an individual is the result of a careful analysis of election issues and of the candidates' positions on these issues is not known. A rather common remark heard in discussions of elections and voting is that an individual may vote for a candidate merely because he favors some personal characteristic of the candidate, or because he is persuaded to cast the same vote as do his friends or associates. This question has been the subject of only a few research studies. In one such study, which was made of the reasoning behind

¹ Thanks are accorded to Doctor H. Ashley Weeks, State College of Washington, under whose supervision this study was carried on.

² A few of the more important ones are Lee J. Cronbach, "Measuring Students' Thinking about a Presidential Election," *School Review*, XL (1941), 679-92; Seba Eldridge, *Public Intelligence: A Study of the Attitudes and Opinions of Voters* (Lawrence, Kan.: University of Kansas, 1935); P. F. Lazarsfeld, "The Change of Opinion during a Political Discussion," *Journal of Applied Psychology*, XXIII (1939), 131-47; Selden C. Menefee, "The Effect of Stereotyped Words on Political Judgments," *American Sociological Review*, I (1936), 614-21; Ross Stagner, "Fascist Attitudes: An Exploratory Study," *Journal of Social Psychology*, VII (1936), 309-19; Ross Stagner, "Fascist Attitudes: Their Determining Conditions," *Journal of Social Psychology*, VII (1936), 438-54.

the vote of students for presidential candidates, Lee J. Cronbach³ found that, on the whole, college students backed up their choice of candidates with logical reasoning. This study did indicate, however, sufficient use of illogical and invalid reasons to warrant concern on the part of those responsible for the civic education of our young people. Many more studies are needed for any conclusion to be reached on this problem.

Little is known about what factors, if any, in the life and background of the individual are related to the vote he or she casts. Lack of information on the latter subject is no doubt due to the fact that it is not possible to associate the actual vote cast with the background of the voters except by asking individuals how they voted in the secret election ballot. In this connection, it is a common assumption that individuals tend to vote for the same party as did their parents and, in the majority of cases, do not change their vote from one party to another. This contention is held by Frank L. Palmer⁴ in his report of a study of the differences in total vote for major parties for the period 1896 to 1936. Palmer's study indicates that every major swing in power from one party to another during that period was achieved by the securing of new voters for the winning side and not by a change in party loyalty of a large number of persons. It is his conclusion that in general both major parties gain new voters, but one party gains more than the other.

Regardless of whether or not persons vote on the basis of party loyalty, the question arises as to what extent background factors other than party loyalty are related to the vote of an individual. The party name and banner are merely symbols for the economic, political, and religious issues which form the basis for party standards and platforms. Whether one votes because of loyalty to a party name, because of agreement with the stand taken by the party's candidate on current issues, or because of some other reason is a problem to be solved. It is the purpose of this paper to offer some data which may contribute to the understanding of this problem.

During the presidential election of 1940, the present writer made a study⁵ of the political preferences and the political intelligence⁶ of a

³ *Op. cit.*, pp. 679-92.

⁴ "We Vote as We Please", *Current History*, XLIX (January, 1939), pp. 35-39.

⁵ *Relationship of Student Knowledge of Election Issues to Choice of Candidates*, a typewritten Master's thesis, State College of Washington, 1941.

⁶ Political intelligence, in the above-mentioned study, refers to knowledge

group of students attending a Western college. Data gathered for the study included information concerning the home background of the students. Rather definite relationships were found to exist between the students' home background and their choice of presidential candidates.

The study included 754 students, of whom 398 were male and 356 female. The number of students choosing candidates other than Roosevelt or Willkie was so small that only those choosing these two candidates were used in this study (385 males, 350 females). No tabulation was made of the residence of the students. A large majority of both males and females, however, gave the state of Washington as their place of birth. It is likely that the greatest number of students are from homes in the Pacific Northwest. The sample included students in all of the academic classes of college, although not in the same proportion as existed for the total college enrollment.

A majority of the students, 62.1 per cent of the males and 81.5 per cent of the females, were under twenty-one years of age. With such a large percentage of the available cases under voting age, it was undesirable to include only the students eligible to vote. Accordingly, all available cases, whether or not they were of voting age, were asked to indicate their choice among the presidential candidates. This choice of candidate is used as an index of political opinion in place of the actual vote itself. All data used were gathered during the five days immediately preceding the presidential election, in order that the element of change of opinion might be eliminated as much as possible.

Of the many background factors on which data were gathered, those showing considerable relationship to choice of candidate include: (1) probable vote of parents of the student (as indicated by the student); (2) the occupation, the income, and the labor union membership of the father of the student; (3) the labor union membership of the student himself; and (4) the receipt of Federal benefits by the family of the student.⁷

The relationship of the background factors to the choice of candidate is presented as the percentage of persons within each category who chose the same presidential candidate. In a few instances a correlation technique (Tetrachoric "r") was used as a measure of relationship.

which the students had of the stands taken by Roosevelt and Willkie on certain election issues.

⁷Direct benefits from the government, such as WPA, NYA, and CCC allotments and other aids or relief.

As is necessary in all statistical studies, relationships were tested with some form of statistical check in order to determine their significance. The form of statistical check generally used was a Critical Ratio test. Where a statistical check indicated that the probability of a relationship occurring by chance was not over 5 times in a 100, the relationship was reported as significant.

Table I reveals that the majority of the students preferred Roosevelt, whereas the majority of the parents of the students, both

TABLE I
Distribution of Vote of Student and of Father and Mother

Cases	Students' No.	Students' Vote %	Fathers' No.	Fathers' Vote %	Mothers' No.	Mothers' Vote %
Male Cases						
Roosevelt	206	53.5	137	44.6	150	47.9
Willkie	179	46.5	170	55.4	163	52.1
Total	385	100.0	307	100.0	313	100.0
Female Cases						
Roosevelt	178	50.9	120	41.4	125	42.4
Willkie	172	49.1	170	58.6	170	57.6
Total	350	100.0	290	100.0	295	100.0
Total Cases						
Roosevelt	384	52.2	257	43.0	275	45.2
Willkie	351	47.8	340	57.0	333	54.8
Total	735	100.0	597	100.0	608	100.0

mothers and fathers, voted for Willkie. For example, 53.5 per cent of the male students preferred Roosevelt, whereas only 44.6 per cent of their fathers and 47.9 per cent of their mothers favored that candidate. Statistically significant differences were found between the vote of the students and the vote of their fathers and mothers in all cases except in the relationship between the vote of the males and the vote of their fathers.

A more accurate picture of the relationship between the students' choice of candidate and the vote of parents is shown in Table II. More than seventy-nine per cent of the students agree with their parents' choice of candidate. The high percentage suggests a relationship between student choice of candidate and vote of parent. Whether this

TABLE II
Distribution of Student Vote by Vote of Father and Mother

Student Vote	Vote of Father				Vote of Mother			
	Roosevelt No.	%	Willkie No.	%	Roosevelt No.	%	Willkie No.	%
Male Vote								
Roosevelt	123	89.8	35	20.6	137	91.3	21	11.8
Willkie	14	10.2	135	79.4	13	8.7	142	88.2
Total	137	100.0	170	100.0	150	100.0	163	100.0
Female Vote								
Roosevelt	108	90.0	31	18.2	115	92.0	27	15.9
Willkie	12	10.0	139	81.8	10	8.0	143	84.1
Total	120	100.0	170	100.0	125	100.0	170	100.0

Correlations between fathers' vote for Roosevelt or Willkie and students' vote for Roosevelt or Willkie are: Male, $r_t = +.896$; Female, $r_t = +.910$. Correlations between mothers' vote for Roosevelt or Willkie and students' vote for Roosevelt or Willkie: Male, $r_t = +.945$; Female, $r_t = +.937$.

relationship is a matter of parental influence or of some factor common to the vote of both parents and students must be determined by later study.

From Table III it may be seen that eighty-four per cent or more of the students who stated a Democratic or Republican party preference

TABLE III
Distribution of Student Vote by Student Party Preference

Student Vote	Democratic		Republican		Independent or None	
	No.	%	No.	%	No.	%
Male Cases						
Roosevelt	138	84.7	15	10.3	50	69.4
Willkie	25	15.3	131	89.7	22	30.6
Total	163	100.0	146	100.0	72	100.0
Female Cases						
Roosevelt	114	89.1	14	9.0	40	74.6
Willkie	14	10.9	141	91.0	17	25.4
Total	128	100.0	155	100.0	67	100.0
Total Cases						
Roosevelt	252	86.6	29	9.6	100	71.9
Willkie	39	13.4	272	90.4	39	28.1
Total	291	100.0	301	100.0	139	100.0

chose a candidate representing that respective party. This indicates a fairly strong party loyalty, although, again, the actual relationship may be hidden in some uncontrolled factor.

Though nearly twenty per cent of both males and females gave their party preference as "None" or "Independent", no more than three per cent voted for candidates other than Roosevelt or Willkie. The distribution of the vote of students indicating their party preference as "None" or "Independent" is included in Table III. It will be noted that the majority vote for Roosevelt of the students with "None" or "Independent" preference is sufficient to account for the majority votes for Roosevelt in Total cases. Further analysis of the background of the individuals who indicate no major party preference is needed to indicate whether they vote for the same party over a period of several elections or whether their support changes and thus accounts for the change in the party winning the majority vote.

The percentage of students voting for the candidate of the party they prefer is higher than the percentages of the students voting for the candidates for whom their parents voted.⁸ With the exception of a difference of 17 per cent in one instance, the percentage difference varies, in general, from 1 per cent to 10 per cent. Whether this is any indication of a more definite relationship between choice of candidate and party preference than between choice of candidate and vote of parents is a subject open for discussion until further evidence is available.

Data in Table IV yield one of the most interesting relationships found between choice of candidate and a factor in the background of the student. A majority of the students whose fathers are classified in the group of "Professional Persons, Proprietors" chose Willkie, whereas a large majority of the students with fathers in the category of "Laborers" chose Roosevelt. A very definite trend, an increase in the percentage of students choosing Roosevelt, occurs through the four occupational groups: from "Professional Persons, Proprietors," through the "Clerks" and the "Farmers," to the "Laborers." Hence it follows that the votes for Willkie are distributed according to the opposite trend. Statistically significant differences are to be found between the percentage of votes for Roosevelt by students represented at the two extremes of this table. Statistically significant differences between the

⁸ From a comparison of data in Tables I and II.

TABLE IV
Distribution of Student Vote by Occupation of Father

Student Vote	Professional Persons, Proprietors		Clerks		Farmers		Laborers	
	No.	%	No.	%	No.	%	No.	%
Male Cases								
Roosevelt	59	40.1	21	47.7	40	58.0	70	72.9
Willkie	88	59.9	23	52.3	29	42.0	26	27.1
Total	147	100.0	44	100.0	69	100.0	96	100.0
Female Cases								
Roosevelt	73	42.2	24	55.8	40	59.7	31	70.4
Willkie	100	57.8	19	44.2	27	40.3	13	29.6
Total	173	100.0	43	100.0	67	100.0	44	100.0
Total Cases								
Roosevelt	132	41.3	45	51.7	80	58.8	101	72.1
Willkie	188	58.7	42	48.3	56	41.2	39	27.9
Total	320	100.0	87	100.0	136	100.0	140	100.0

percentage of votes for Roosevelt are not found between students whose fathers are "Professional Persons, Proprietors" and students whose fathers are "Clerks," nor between students whose fathers are "Clerks" and students whose fathers are "Farmers"; all other relationships are statistically significant. The consistency of the trend in vote as well as the comparability of results with the commonly accepted distribution of vote by socio-economic groups seems worthy of consideration.

The data presented in Table V indicate that a difference in the percentage of vote for Roosevelt exists between students whose fathers are in the lower-income brackets and students whose fathers are in the upper-income brackets.⁹ Differences in percentage of vote cast for Roosevelt between the upper- and the lower-income brackets is statistically significant for the male cases, for the female cases, and for the total cases. Here, again, the trend is consistent for all cases and follows the popular opinion of how economic groups split on elections.

Occupation and income are significant factors in the background of the individual. On the basis of the results of the above data, it might be assumed that a knowledge of the occupational-income status of a group would give some indication of the trend in vote. It must be remembered, however, that an occupational-income classification segre-

TABLE V
Distribution of Student Vote by Income of Father

Student Vote	Under \$2,500 No.	%	\$2,500 and Over No.	%
Male Cases				
Roosevelt	114	58.2	65	44.2
Willkie	82	41.8	82	55.8
Total	196	100.0	147	100.0
Female Cases				
Roosevelt	83	63.4	71	45.2
Willkie	48	36.6	86	54.8
Total	131	100.0	157	100.0
Total Cases				
Roosevelt	197	60.2	136	44.7
Willkie	130	39.8	168	55.3
Total	327	100.0	304	100.0

gates voters into large diversified groups which may vary greatly within themselves in their support of election issues.

The relationships of voting preference to receipt of Federal benefits and to labor-union membership are somewhat comparable to those of income and occupation. Data showing the relationships of receipt of Federal benefits and labor-union membership to student choice of candidate are presented in Tables VI and VII, respectively.

From Table VI, it may be seen that both male and female students whose families received Federal benefits during a part or the whole of the five-year period prior to November, 1940, voted by a larger majority for Roosevelt than did students whose families received no Federal benefits during that period. Differences in vote are statistically significant for all cases.

Students whose fathers were labor-union members (see Table VII) voted by a strong majority for Roosevelt; students whose fathers were not labor-union members voted by a slight majority for Willkie. Differences in vote are statistically significant. Although the number of students who were members of labor unions is small, the data indicate that the trend in vote is consistent with the trend in vote on the basis of fathers' membership. The differences in vote are not statistically

^a The division of economic groups at \$2,500 is an arbitrary selection of the nearest division to the mean.

TABLE VI
Distribution of Student Vote by Receipt of Federal Benefits

Student Vote	Received Benefits		Received No Benefits	
	No.	%	No.	%
Male Cases				
Roosevelt	61	59.8	113	48.1
Willkie	41	40.2	122	51.9
Total	102	100.0	235	100.0
Female Cases				
Roosevelt	54	67.8	118	46.6
Willkie	26	32.2	135	53.4
Total	80	100.0	253	100.0
Total Cases				
Roosevelt	115	63.2	231	47.3
Willkie	67	36.8	257	52.7
Total	182	100.0	488	100.0

TABLE VII
Distribution of Student Vote by Labor-Union Membership

Student Vote	Membership of Fathers				Membership of Students			
	No.	Members %	No.	Non-members %	No.	Members %	No.	Non-members %
Male Cases								
Roosevelt	47	73.4	141	48.1	33	63.5	161	51.6
Willkie	17	26.6	152	51.9	19	36.5	151	48.4
Total	64	100.0	293	100.0	52	100.0	312	100.0
Female Cases								
Roosevelt	28	70.0	135	48.2	4*	57.1	168	50.5
Willkie	12	30.0	145	51.8	3*	42.9	165	49.5
Total	40	100.0	280	100.0	7	100.0	333	100.0
Total Cases								
Roosevelt	75	72.1	276	48.2	37	62.7	329	51.0
Willkie	29	27.9	297	51.8	22	37.3	316	49.0
Total	104	100.0	573	100.0	59	100.0	645	100.0

* Cases are too few for a test of significance.

significant, possibly because of the small number of cases.

In a summary of the data given here, several factors must be kept in mind:

1. The cases studied are drawn from a fairly select socio-economic stratum as well as from one section of the country.
2. Although the vote of individuals is the subject of the study, the fact that only thirty per cent of the cases are of voting age necessitated the use of the "choice of candidate" of many students not eligible to vote.
3. Consideration must be given to the fact that very probably many of the individuals had given little thought to elections, candidates, and issues previous to participating in this particular study.
4. All trends given must be interpreted as trends of relationship and not of cause and effect.
5. The study was not exhaustive. Relationships shown may be merely manifestations of hidden factors not considered in the study.

The following relationships are pertinent:

1. Despite the fact that the students voted by a majority for Roosevelt, whereas the parents of the students voted by a majority for Willkie, a high degree of relationship was found between the vote of the students and the vote of the parents.
2. A high degree of relationship was found between the vote of the students and the Democratic or Republican party preference of those students.
3. A majority of over 69 per cent of the students of independent or no party preference chose Roosevelt as their candidate. The fact that a majority of the total students chose Roosevelt as their candidate is to a great extent due to this strong support of Roosevelt on the part of students of independent or no party preference.
4. A definite trend in the vote for Roosevelt was found on the basis of occupational and economic background factors with the "higher" socio-economic groups voting by a majority for Willkie and the "lower" socio-economic groups voting by a majority for Roosevelt.
5. The relationship between student vote and the factors of receipt of Federal benefits and of labor membership indicate the same voting trend as that shown on the basis of occupational-income factors.

These relationships do not offer an answer to the question as to whether a person votes as a result of careful analysis of issues or as a result of habit brought on by parental influence and party loyalty. Relationships shown here are general in nature. The relationship which is indicated between occupational-income status and choice of candidate may be merely a manifestation of the relationship between parental vote and student choice of candidate, or vice versa. Numerous additional studies of this type, with a more thorough analysis of available data, are needed to answer fully the question of the nature of the individual vote in a presidential election.

December, 1942

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RESEARCH STUDIES of the STATE COLLEGE OF WASHINGTON

Volume X

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Number 4

SOCIAL HERITAGE AS A FACTOR IN COLLEGE ACHIEVEMENT¹

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I. Introduction

THE CHANGING FUNCTION OF THE AMERICAN COLLEGE

The institution of higher learning has become firmly established in the American culture pattern. Universal education and an enlightened populace are held to be prerequisites to the functioning of a democratic society. In such a society the college or university serves the essential purpose of recruiting potential leaders from among all social groups, training them, and placing them in positions commensurate with their ability. It provides a medium for youth to move upward on the socio-economic "ladder," thus serving as a safeguard against the development of a rigidly stratified, or caste, society. "Higher education has become our chief instrument for facilitating individual migration to higher social and economic levels."² It is a "social elevator," one of the great "channels of vertical circulation."³

In this country education has long been considered the birthright of all social classes, yet college attendance was largely limited, until a comparatively recent date, to the privileged economic and social groups. "The American college was founded to train naturally superior minds in the fields of law, medicine, and theology."⁴ Except as training for

¹ The authors gratefully acknowledge the assistance of Charles W. Nelson, Graduate Research Fellow in Rural Sociology 1940-1942, in investigating available college records and taking the initiative in laying the groundwork for this study.

² H. W. Chase, "Education, a Social Tool," *School and Society*, XXXIX (1934), pp. 627-628.

³ P. A. Sorokin, *Social Mobility* (New York: Harper and Brothers, 1927), pp. 169-71.

⁴ G. Wakeham, "Should Colleges Cull or Cultivate?" *School and Society*, LII (1940), p. 316.

the professions, little value was placed upon college education. Alternate outlets for social and economic advancement were provided by the development and exploitation of the seemingly unlimited resources of a young and growing nation. Westward expansion and growing industrialism presented opportunities for young persons from all ranks in society to ascend to higher levels.

A combination of developments in the twentieth century has given rise to an increasing dependence upon higher education as a device for effecting the climb upward. "Immigration, the growth of cities, the passing of the frontier, the increased complexity of economic life, these things have meant more and more that the road to opportunity has been visualized as running through the college campus."⁵ Contributing factors have been the increased educational requirements for many of the desirable occupations; the greater accessibility of advanced education with the rise of relatively low-cost public colleges and universities; the enforced idleness of youth who have reached the employable years in increasing numbers to find that no jobs existed; the growth of the co-educational movement; and the increase in per capita productivity, income, and the standard of living.

These factors have combined to produce a tremendous growth in college enrollments since 1900. Whereas one person in twenty-five between the ages of 18 and 21 was attending college in 1900, one in seven was enrolled in 1938.⁶ The State College of Washington has shared in this growth of college population. In 1900 the total enrollment of the college was 386 students; in 1940, 5,114 students, an increase of 1,225 per cent during a period when the population increase of the state was only 235.1 per cent.

The phenomenal growth in college enrollments during the current century seems to have been brought about in large measure by a marked broadening of the population base from which students are drawn. No longer can it be said that it is the privileged classes alone which avail themselves of college training. "The case of social climbing through the school channel is understood now by a great many people." The blocking of other channels of vertical mobility has tended toward universal reliance upon higher education. "The day is long past when any

⁵ Chase, *op. cit.*, p. 628.

⁶ *Statistics of Higher Education, 1937-38*, Bulletin 1940, No. 2, U. S. Office of Education (Washington, D. C., 1941), p. 8.

⁷ Sorokin, *op. cit.*, p. 171.

college can assume that its students all come from a background of cultured homes. . . . Today, certainly, it is truer of these institutions [land-grant colleges] than ever before that their students are drawn from homes that represent every grade of social background."⁸

THE COLLEGE AS A LABORATORY FOR SOCIOLOGICAL RESEARCH

Because the present-day American college draws its students from widely divergent social and cultural backgrounds, it provides an unusually fertile field for sociological investigation. It subjects all groups to a more or less common set of environmental circumstances and thus provides opportunity for a study of the adjustment processes and comparative achievements of the various culture groups represented. Comparisons are made possible by the more or less precise measurements of success afforded by the grading system (even with its deficiencies), the extent of participation and leadership in activities, and, in colleges with well-developed personnel programs, the degree of success in personal and social adjustments in many aspects of college life. To date, adequate consideration has not been given to cultural background and personality factors, which are frequently as vital to college adjustment as are intelligence and previous high-school performance, the traditionally exploited indices of success.

THE PROBLEM

Two types of studies have laid the foundation for further research dealing with general background factors in college adjustment: (1) studies which have sought to isolate factors in college success, and (2) comparative studies of the intelligence and scholastic achievements of rural and urban student groups.

The first type of study has demonstrated that high-school record and intelligence-test score are the best available indicators of scholastic success in college, with the former being somewhat superior as a predictive index.⁹

⁸ *Survey of Land Grant Colleges*, Bulletin No. 9, U. S. Department of the Interior (Washington, D.C., 1930), p. 425.

⁹ The following studies illustrate the research activity in this field: (1) Wm. McGehee, "Freshman Grades and the American Council Psychological Examination," *School and Society*, XLVII (1938), 222-24; (2) S. B. Schmidt, "Predicting Success in College: A Study of Various Criteria," *Journal of Educational Psychology*, XXVIII (1937), 465-73; (3) G. A. A. Jones and H. R. Laslett, "The Prediction of Scholastic Success in College," *Journal of Educational Research*, XXIX (1935), 266-71; (4) C. L. Nemzak, "Direct and Differential Prediction of Academic Success as Measured by the Stanford Achievement

The predictive value of either or both of these factors is so small, however, as to indicate that additional forces are at work to condition scholastic performance in the college situation.

Studies comparing the intelligence quotients and scholastic records of rural with urban high-school students show almost uniformly that the rural students do not equal urban students in intelligence-test performance.¹⁰ Evidence on whether college students from rural communities equal those from urban centers is somewhat contradictory.¹¹ It has, however, usually been shown that, on the basis of scholarship during the first college semester, the performance of urban students is superior to that of rural students. When persistence, as indicated by length of time spent in college, is added as a gauge of success, rural students perform at least as satisfactorily as do urban students.

Test" *Journal of Social Psychology*, XIII, (1941), 771-88; (5) F. S. Freeman, "Predicting Academic Survival," *Journal of Educational Research*, XXIII (1931), 113-23; (6) C. B. Read, "Prediction of Scholastic Success in a Municipal University," *School and Society*, XLVIII (1938), 187-88; (7) F. S. Sheeder, "College Achievement of Lower Group Secondary School Students," *Journal of Educational Research*, XXXI (1938), 497-505.

¹⁰ See Mapheus Smith, "Intelligence of University Students by Size of Community of Residence," *School and Society*, LV (1942), 565-67; Ruth Byrns and V. A. C. Henmon, "Parental Occupation and Mental Ability," *Journal of Educational Psychology*, XXVII (1936), 284-91; Hornell Hart, "Urbanization of Population," in Louis I. Dublin's *Population Problems in the United States and Canada* (Boston and New York, 1926), pp. 58-59. Sorokin and his colleagues summarize some sixty-five studies which compare the intelligence performance of rural and urban groups. See P. A. Sorokin, C. C. Zimmerman, and C. J. Galpin, *A Systematic Sourcebook of Rural Sociology* (Minneapolis: University of Minnesota Press, 1930), pp. 266-81.

¹¹ Among the important studies are B. F. Pittenger, *The Efficiency of College Students as Conditioned by Age at Entrance and Size of High School*, 16th Yearbook of the National Society for the Study of Education (Bloomington, Ill.: Public School Publishing Company, 1927); Robert M. Bear, "Factors in the Achievement of College Freshmen," *School and Society*, XXIV (1926), 802-04; T. C. McCormick, "Rural Intelligence and College Achievement," *Sociology and Social Research*, XVI (1932), 259-66; *Survey of Land Grant Colleges*, U. S. Dept. of the Interior, Bulletin No. 9 (Washington, D.C., 1930), 351-55; H. H. Remmers and J. M. Stalnaker, *A Study of the Class Entering Purdue University in 1926*, "Studies in Higher Education," Bulletin of Purdue University, XXXI, No. 9 (Lafayette, Ind., May, 1931); H. R. Douglass, "Relation of the Pattern of High School Credits to Scholastic Success in College," *North Central Association Quarterly*, VI (1931), 283-97; P. S. Dwyer, "Some Suggestions Concerning the Relationship Existing between Size of High School Attended and Success in College," *Journal of Educational Research*, XXXII (1938), 271-81; L. H. Thornberg, "College Scholarship and Size of High School," *School and Society*, XX (1924), 189-92; Charles W. Nelson, "Testing the Influence of Rural and Urban Environment on A.C.E. Intelligence Test Scores," *American Sociological Review*, VII (1942), 743-51.

These are valuable contributions, but the sociologist has yet to explore the importance of social heritage to college achievement. One problem of particular concern to the rural sociologist is the adjustment of students with a rural heritage to various phases of the college environment. Are rural students, because of presumably inferior pre-college training and cultural backgrounds, handicapped in the college situation? If so, a study of the comparative college performance of rural and urban students might point to areas in which educational and other background factors in the rural environment might be improved, and disclose the need for specific efforts and techniques in the guidance and counselling of college students from rural areas.

SOURCES OF THE DATA

This study is based upon records of 1,097 freshman students who entered the State College of Washington in September, 1936, without previous college experience. Only those students who had no previous college training were included because it was felt that exposure to another college environment would have conditioned the adjustment processes. The year 1936 was selected because it is sufficiently recent to render the findings valid in the light of present-day circumstances, and at the same time allows sufficient time for most of the students to have completed or otherwise terminated their college courses.

The specific sources from which the data were drawn include the following: (1) the application form for college admission filled out by each student, giving rather detailed personal, family, and background data (this form also asks the student to indicate the college course he intends to take and the vocation he intends to follow after graduation); (2) the high-school record which is supplied by the high-school principal as a prerequisite to college admission (this record shows the number of credits earned by courses, rank in class, grades in specific courses, and [for boys only] a rating on sociability, intelligence, and purposefulness by the principal, and a list of activities, interests, and aptitudes); (3) the records of the physical examination taken upon college entrance, giving height, weight, physical defects, and information as to the condition of heart, lungs, skin, eyes, teeth, etc.; (4) the scores and decile ratings on the American Council Psychological Examination administered by the college to all incoming students; (5) (for girls only) the dormitory and sorority house-mothers' year-by-year ratings on ten personal characteristics, such as poise, neatness, co-

operation, and integrity, and accounts of activities and leadership; (6) the grades, grade points, and credit hours of all students, on file in the Office of the Registrar; (7) the 1937, 1938, 1939, 1940, and 1941 editions of *The Chinook*, the college annual, from which information was secured as to participation and leadership in student activities; (8) to a limited extent, information from a follow-up questionnaire used by the Division of Rural Sociology in a separate study of post-college adjustments.¹²

METHOD OF STUDY

The general plan of the study is (1) to ascertain as accurately as possible the characteristics, intelligence, and pre-college scholastic performance of rural-farm, rural-nonfarm and urban students by sex and, in some cases, by parental occupation, at the State College of Washington; and (2), in view of these qualifications manifested at the time of college entrance, to ascertain whether rural and urban groups measure up to the expected levels of college achievement. If it should be found that the various residence-occupation groups depart from the anticipated levels of performance, it will be clear that other influences than those accounted for affect scholastic achievement at the college level.

HYPOTHESIS

It is assumed as a working premise that general factors in the socio-occupational heritage of youth affect successful adjustment to the college situation. Past school performance and objective measures of intelligence do not provide sufficient basis for predicting college achievement. The culture patterns of rural and urban areas and of the different occupational groups provide the individual with values, motives, and character traits, many of which are to date not measurable, but which play a vital part in college success or failure. Differences in the social heritages of girls and boys may also be factors.

¹² The data from the various sources were entered and coded on an individual schedule for each student. The coded information was then punched on Hollerith cards. All sorting and tabulating were done by the Hollerith machine. Statistical tests of significance were run on all "proportions" and "means" used as bases for rural-urban comparisons. Unqualified significance is attached to only those differences which could have occurred by chance in five or fewer similar samples out of every one hundred drawn. Differences which might have occurred by chance more than five but fewer than fifteen times in one hundred are said to tend toward significance. For a description of the statistical tests of significance between two proportions and between two means, see F. E. Croxton and D. J. Cowden, *Applied General Statistics* (New York: Prentice-Hall, Inc., 1940), pp. 337-39 and 317-22, respectively.

DEFINITION OF TERMS

The census definitions of "rural" and "urban" are used throughout. A rural student is considered to be one whose home residence is located in the open country or in a hamlet or village having fewer than 2,500 inhabitants. An urban student is one whose residence is in a town or city with a population of 2,500 or over.

For most purposes the rural group is further divided in accordance with census practice into rural-farm and rural-nonfarm sub-categories. The justification for this breakdown is that it is the agricultural group whose culture, habits, and attitudes are felt to be most truly representative of the rural type. Research in rural sociology has shown that the characteristics of the rural-farm and rural-nonfarm populations are widely divergent in certain social and cultural aspects. In many respects the rural-nonfarm population resembles the urban more closely than it does the rural-farm.¹³

All students who listed their fathers' occupation as farming were included within the rural-farm group. It is recognized that this procedure may not be without its weaknesses, but lack of precise information as to open-country residence necessitated its use. It can probably be assumed that practically all students who listed their fathers' occupation as farming were farm-reared and are products of the rural-farm culture.

No information as to fathers' occupation was available for 39 rural students. Since there was no way of knowing whether these students belonged in the rural-farm or the rural-nonfarm categories, they were termed "rural-unclassified" and not included within either category.

In order to facilitate interpretation and to present cultural differences, many of the data were further broken down by fathers' occupation. The Edwards occupational grouping¹⁴ was used as the basis for classification, with these major exceptions: the farmers were removed from the proprietary class to comprise a separate group, and the semi-skilled and unskilled groups were combined. The occupational groups used in this study are as follows: (1) professional, (2) proprietary, (3)

¹³ The differences between the population characteristics of rural-farm and rural-nonfarm groups are discussed in J. H. Kolb and Edmund deS. Brunner, *A Study of Rural Society*, revised and enlarged ed. (Boston: Houghton Mifflin Co., 1940), pp. 239-44.

¹⁴ See Alba M. Edwards, *A Social-Economic Grouping of the Gainful Workers of the United States*, U. S. Govt. Printing Office (Washington, D. C., 1938).

clerical, (4) skilled workers, (5) semi-skilled and unskilled workers, and (6) farmers.

In this treatment, success in college is measured largely by grade-point average and persistence, although consideration is also given to participation and leadership in student activities. It is not maintained that these are the sole criteria of college success, but they are fairly adequate for the purposes at hand. Several specific indices are used in evaluating college performance: grade-point average, total grade points earned, semesters in attendance, frequency of graduation, and an activity-leadership score. Because the total number of grade points is a reflection both of scholastic excellence and persistence, it is the index most widely used in the current study.

LIMITATIONS OF THE STUDY

The chief weakness of the study is the fact that it is based entirely on records. Its nature and scope are necessarily shaped and limited by the type of information available. It was not possible to evolve a wholly satisfactory criterion of college success, inasmuch as only the outward symbols of successful adjustment were available. The more subtle personal-social adjustments to the college environment and the outside world must await analysis by case study techniques of carefully selected groups of rural and urban students.

II. The Comparative Selection of Rural and Urban Students at the State College of Washington

In this chapter, interest is focused on (1) the selection of rural and urban students, and (2) the sex composition, the physical characteristics, and the occupational, economic, and educational heritage of the rural and urban students. These selective factors are in a later section employed to help explain differences in college adjustment of the rural and urban groups considered. The entering class of 1936 was fairly representative of the entire population of college age as to rural-farm, rural-nonfarm, and urban composition. The age group in the total population¹⁵ divided itself as follows: one-fourth rural farm, one-fourth rural-nonfarm, and one-half urban. The entering college class was slightly high (28 per cent) in its rural-farm representation, and slightly

¹⁵ For this comparison the census age group 10-14 of 1930 was used, since this is roughly the group from which the entering college class of 1936 was drawn.

low (47 per cent) in its urban composition (Table 1) and in the rural-nonfarm group (21 per cent). The 39 students in the "rural-unclassified" category are such a small percentage (3.6) of the total that they would not greatly change the percentages mentioned in the previous sentence; they would presumably make the rural-farm representation a little higher still (perhaps about 30 per cent) and the rural-nonfarm percentage nearly proportionate (perhaps about 22.6 per cent).

Table 1. The Rural-Farm, Rural-Nonfarm, and Urban Composition of the Entering Class at the State College of Washington, 1936, by Sex*

Types of residence	Number			Percentage		
	Total	Boys	Girls	Total	Boys	Girls
All residences	1,097	722	375	100.0	100.0	100.0
Rural-farm	306	202	104	27.9	28.0	27.7
Rural-nonfarm	233	155	78	21.2	21.5	20.8
Rural-unclassified	39	34	5	3.6	4.7	1.3
Urban	511	326	185	46.6	45.1	49.4
Not ascertained	8	5	3	0.7	0.7	0.8

* This is the base table giving the major classifications which will be used throughout the study. Failure of totals on some tables to equal those in the base table indicates that complete information was not available.

Although the urban student population has a slightly greater proportion of girls than do the rural student groups, the differences in sex composition are not significant. Girls comprised 34 per cent of the rural-farm group, 33 per cent of the rural-nonfarm, and 36 per cent of the urban. The slight excess of girls among the urban students may be due to the fact that females of college age outnumber males in the urban population.¹⁶

SELECTION BY OCCUPATIONAL CLASSES

The occupational groups from which the entering students were drawn are indicated in Figure 1. The farmer and proprietary occupations furnished the largest proportions of students, the two groups accounting for more than one-half of the total enrollment. A surprisingly large proportion (almost one in seven) was supplied by each of the laboring groups—(1) the skilled, and (2) the semi-skilled and unskilled. Only about one-tenth of the students came from each of the professional and clerical occupations.

¹⁶ At ages 18 to 19 the sex ratio of the urban population in Washington in 1940 was 94.5 men to 100 women. Paul H. Landis, *Fifty Years of Population Growth in Washington*, Washington Agricultural Experiment Station, Bulletin 419 (1942).

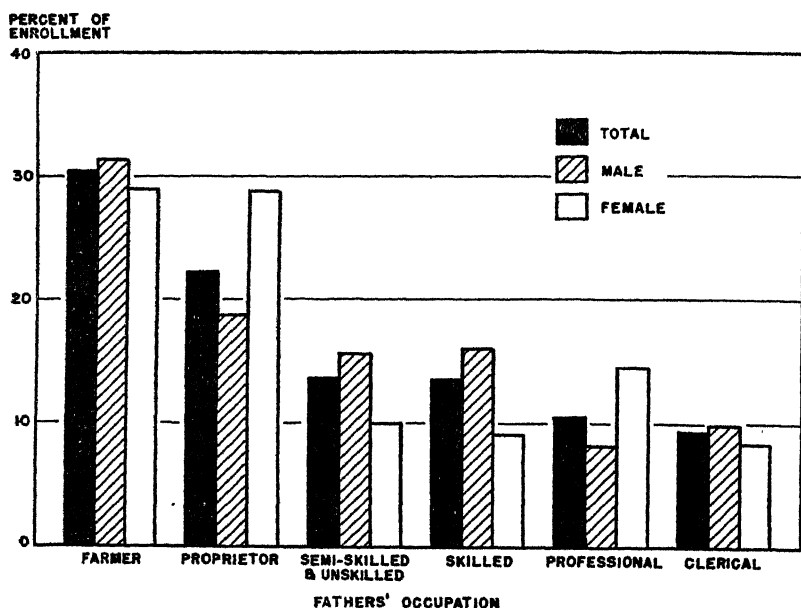


Figure 1. Proportion which each occupational group comprised of the total, male and female, enrollments in the entering class at the State College of Washington, 1936.

It is interesting to note that girls were drawn in disproportionately large numbers from the professional and proprietary classes, which are perhaps the most favored economically. The skilled, and semi-skilled and unskilled occupations furnished an unduly large proportion of boys, college attendance by men evidently being more common in the less favored economic strata than is attendance by women. Ability to earn at least a portion of their college expenses makes it possible for males from the lower socio-economic groups to attend college.

SELECTION ON THE BASIS OF SEX

Of the 1,097 entering students, 722, or almost 66 per cent, were males (Table 1). So large a proportion would seemingly indicate a marked selection on the basis of sex. Yet comparison with the college enrollment for the country as a whole indicates that the sex distribution is not far out of proportion. In 1936, approximately three-fifths of all college students were males,¹⁷ a proportion almost as high as that at

¹⁷ H. C. Badger, F. J. Kelly, and W. J. Greenleaf, *Statistics of Higher Education*, Bulletin 1937, No. 2, U. S. Dept. of the Interior (Washington, D.C., 1938), p. 11.

the State College during the same year.

Two other important reasons may be advanced for the predominance of males in the college population: (1) co-education is a comparatively recent innovation, with girls entering college at a considerably later period than males; (2) American culture still places a higher value on college education for men than for women. Despite long strides toward emancipation of women and equality of the sexes, a large number of positions, many of which require college training, are still held to be almost exclusively in the man's sphere. It is imperative that the male prepare himself for making a livelihood through his lifetime, but a woman usually plans to work only until marriage, and therefore more often pursues after high school a special training course which will give her a job immediately.¹⁸ When a boy and a girl of college age are found in the same family, it is usually the boy who is sent to college if the state of the family's finances will not permit both to go. Furthermore, it is more socially approved, if not easier, for a boy to "work his way through" college than it is for a girl to do so. This is probably the main cause for the fact that many more males than females attend college from the lower economic classes, the strata in which school selection is most marked (Fig. 1).

SELECTION ON THE BASIS OF AGE

Eighteen was the modal age of both male and female entering students, this age bracket including over 35 per cent of all students (Fig. 2). There is a heavy concentration of girls in the younger age groups. More than 51 per cent of the girls were 18 or younger at the time of entrance, whereas only about 37 per cent of the boys were included within the same age group. The mean age for all students at the time of entrance was 19.16 years, with the boys averaging 19.33 years and the girls exactly one-half year younger, 18.83 years.

Almost as many students (29 per cent) entered college at 19 as entered a year younger. An equally large proportion of students were 20 years of age or over at the time of entrance. More than one in every

¹⁸ A study of the activities of high-school graduates of the state six months after commencement showed that, although many more boys than girls go to institutions of higher learning, a large number of girls enter commercial schools, go into nurses training, or return to high school as post-graduates, so that more girls than boys pursue some type of educational training after high-school graduation. Girls through these special courses probably plan to prepare themselves for the labor market at an earlier age than they might by going to college. Paul H. Landis, *Six Months after Commencement*, Washington Agricultural Experiment Station Bulletin 420 (Sept., 1942).

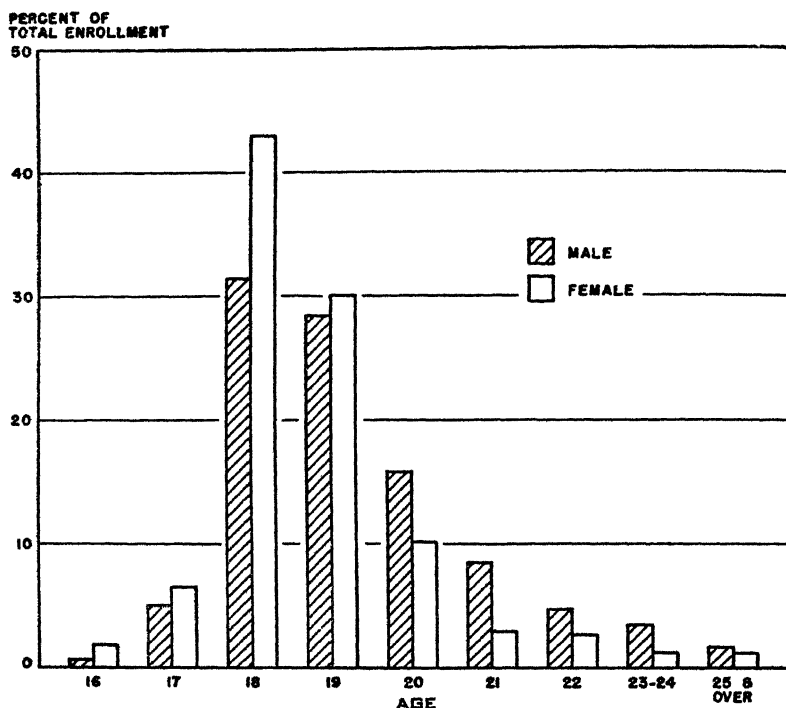


Figure 2. Age distribution of male and female students entering the State College of Washington, 1936.

three boys was 20 years of age or over, compared with less than one in five girls.

Girls proceed directly from high school to college more often than do boys. Three-fourths of the girls came to college during their first year out of high school, whereas only three-fifths of the boys had completed high school during the year immediately preceding college entrance. Girls also tend to complete high school at an earlier age than boys. In any case, a large number of youth return to formal education only after earning money to help pay for college training or after discovering that additional training is almost indispensable in facilitating upward movement on the socio-economic ladder. In this older group there are more than twice as many men as women.

Selection operates not only with the sexes, but also with occupational and residential groups. Students from rural non-farm areas are young-

est (mean age 18.9 years); those from urban areas oldest (mean age 19.3 years); and those from farming areas fall in between (19.1 years). (The difference between the rural-nonfarm and urban means tends towards significance, for the variance between the rural-farm and urban means could have resulted from chance but 14 times in 100.)

The advanced age of the urban students is accounted for by the presence of large numbers of students from the laboring groups. The semi-skilled and unskilled students averaged 19.4 years, and the skilled 19.3 years. The farm and clerical groups averaged 19.1 years, and the proprietary and professional groups were youngest, averaging 18.8 and 18.9, respectively. Students from the laboring groups are more likely to remain out of school to work for a year or more before entering college.¹⁹ Furthermore, they are distinctly male-dominated, and, as has been noted, boys average one-half year older than girls at college entrance.

There is a marked tendency for the parents of urban students to have attained a higher educational level (Table 2). Only 13 per cent of the fathers and 11 per cent of the mothers of urban students had failed to go beyond elementary school, compared with 30 per cent and

Table 2. Comparison of Education of Fathers and Mothers of Students, Classified by Residence and Sex

Level of education	Rural-Farm		Rural-Nonfarm		Urban	
	Boys	Girls	Boys	Girls	Boys	Girls
Elementary						
Fathers	31.9	26.2	28.7	13.6	16.0	9.6
Mothers	28.9	19.7	23.7	6.1	14.1	7.6
High school						
Fathers	23.0	23.0	21.3	25.0	28.6	28.0
Mothers	41.2	45.5	37.6	40.8	45.8	38.9
College						
Fathers	28.3	29.5	34.0	50.0	42.3	48.8
Mothers	28.1	31.8	35.5	42.9	28.8	42.0
Business college						
Fathers	11.5	16.4	12.8	9.1	8.0	8.8
Mothers	0.9	3.0	2.1	8.2	4.5	9.2
Other						
Fathers	5.3	4.9	3.2	2.3	5.1	4.8
Mothers	0.9	—	1.1	2.0	6.8	2.3

¹⁹ Data are presented in Table 6.

26 per cent, respectively, for the rural-farm, and 24 per cent and 18 per cent for the rural-nonfarm.

The differences in the proportions of parents who had attended high school were not marked among the residence groups, although there is a distinct tendency among all residence groups for mothers to have gone to high school more often than fathers, and fathers to have gone to college more often than mothers. The urban students have a significantly larger proportion of college-educated fathers than have students from the rural groups. The rural-nonfarm students, however, reported the largest proportion of college-educated mothers.

Parental education is a more important selective factor for girls than for boys, the parents of the college girl being much more often well educated. Only 15 per cent of the fathers of girls had had no more than an elementary school education, compared with 24 per cent of the fathers of boys. On the other hand, 44 per cent of the fathers of girls were college-educated, compared with 36 per cent of the fathers of boys. A similar relationship holds for the comparative educational training of mothers of college girls and boys. It is clear from these data that the girl in the poorly educated family is at a greater disadvantage than the boy from the standpoint of college attendance.

INCOME LEVELS FROM WHICH STATE COLLEGE OF WASHINGTON STUDENTS ARE DRAWN

The distributions of parental incomes, together with the mean incomes, at time of college entrance for three broad occupational classes—white collar (including the professional, proprietary and clerical groups), the farmer, and the laborer—are shown in Fig. 3. The information was obtained from a sample of 346 cases from the follow-up study to which reference has previously been made.

The median parental income for all students included within the sample was slightly over \$2,000. The white-collar group, with two-thirds of all incomes in the \$2,000-and-over brackets, had a median of nearly \$2,300, which was distinctly higher than that of the other groups. The farm group showed wider dispersion than either of the others, with a fairly heavy concentration in the lower income brackets, but with almost one-half of the incomes at \$2,000 or over. The median income for the farm group was slightly more than \$1,900, and that for the laborer group approximately \$1,650. The latter group showed a definite modal tendency in the \$1,500-\$1,999 range, with a sharp dropping off

in the upper brackets. The farm income, though exceeding that of the laborers, lags distinctly behind that of the white-collar workers and is slightly below the median for all occupations. Although the relative

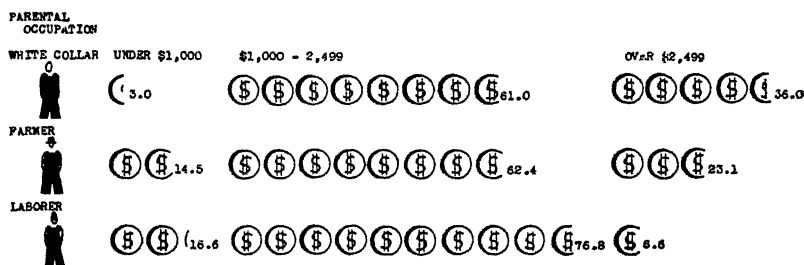


Figure 3. Parental income at time of college entrance of a sample of 346 students from white-collar, farmer, and laborer classes.

	Total	White-Collar	Farmer	Laborer
No. of Cases	346	169	117	60
Median Income	\$2,052.00	\$2,278.85	\$1,911.76	\$1,652.17

position of the farmer class is undoubtedly superior to that which would be found in many parts of the country,²⁰ it is still somewhat lower than that for the population as a whole.

SELECTION ON THE BASIS OF ABILITY OF PARENTS TO FINANCE EDUCATION

The plans for financing the college course indicated by all students on their applications for admission to college provide a further basis for comparing rural and urban students (Table 3). It will be noted that there is little variation among the three groups as to the proposed methods of finance, except that a significantly larger proportion of urban students expected to rely exclusively on parental support. Approximately one in every four urban students intended to finance his college course in this manner, compared with one in seven for each of the rural groups. The rural-nonfarm group had a somewhat larger proportion than the other groups who expected to combine parental support and work. As would be expected, a much larger proportion of

²⁰ In both average income and standard of living, the farm population of the Northern Pacific region (including the state of Washington) ranks higher than in most regions of the United States. See A. R. Mangus, *Rural Regions of the United States*, Federal Works Agency, U. S. Govt. Printing Office (Washington, D. C., 1940), pp. 45 and 67; also C. C. Taylor, Helen W. Wheeler, and E. L. Kirkpatrick, *Disadvantaged Classes in American Agriculture*, Social Research Report No. VIII (Washington, D. C., April, 1938), pp. 110, 111 and 114 (tables).

Table 3. Students' Plans for Financing the College Course, by Residence and Sex

<i>Plans for finance</i>	<i>Rural-Farm</i>		<i>Rural-Nonfarm</i>		<i>Urban</i>	
	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>
Parents	8.2	31.0	9.4	26.9	13.3	48.4
Work	40.4	14.9	40.6	11.9	41.2	12.4
Work and parents	24.0	25.3	28.3	41.8	23.5	26.1
Savings and work	13.7	9.2	9.4	8.9	13.3	2.5
Other	10.4	13.8	6.5	6.0	5.8	7.5
No plans	3.3	5.8	5.8	4.5	2.9	3.1

girls than boys depended entirely upon parental support—38 per cent compared to less than 11 per cent. Only 12 per cent of the girls gave work as their only means of finance, whereas 41 per cent of the boys intended to finance their courses by employment.

Dependence upon parental support shows a distinct tendency to lessen when one moves downward on the occupational scale (Table 4). One-third of all students from the professional group relied exclusively on parental support, with the proprietary, clerical, farmer, skilled, and

Table 4. Students' Plans for Financing the College Course, by Occupation of Fathers

<i>Plans for finance</i>	<i>Professional</i>	<i>Proprietorial</i>	<i>Clerical</i>	<i>Skilled</i>	<i>Semi-Skilled and Unskilled</i>	<i>Farmer</i>
Parents	34.1	31.6	27.0	12.5	7.4	15.6
Work	17.5	23.8	28.1	37.5	45.1	32.2
Work and parents	32.0	29.0	27.0	27.5	23.8	24.4
Savings and work	5.1	6.8	7.8	15.9	10.7	12.2
Other	7.2	6.2	7.9	3.3	6.5	11.5
No plans	4.1	2.6	2.2	3.3	6.5	4.1

semi-skilled and unskilled groups following in that order. In the latter group only one student in every 14 anticipated parental support to the exclusion of other financial arrangements. The picture is precisely reversed when occupational groups are compared as to the proportion of students listing "work" as the means of finance. Almost one-half of the semi-skilled and unskilled group expected to "work their way," with the proportions shading off consistently through the skilled, farmer, clerical, proprietary, and professional classes. The skilled and farm groups had sizable proportions listing "savings and work", more youth

from these occupations than from the other categories evidently having worked before entering college.

SELECTION ON THE BASIS OF WORK PERIOD PRIOR TO COLLEGE ENTRANCE

Three-fifths of the rural-farm students came to college during their first year out of high school (Table 5). The proportion was only slightly higher for the urban group, and both were significantly lower

Table 5. Number of Years between High-School Graduation and College Entrance, by Residence and Sex of Students

<i>Years out of school</i>	<i>Rural-Farm</i>		<i>Rural-Nonfarm</i>		<i>Urban</i>	
	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>
None	56.4	67.3	69.0	78.2	56.7	73.0
One	23.8	19.3	15.5	11.5	24.8	13.5
Two and three	11.4	6.7	9.7	9.0	12.2	7.0
Four or more	8.4	6.7	5.8	1.3	6.3	6.5
All years	100.0	100.0	100.0	100.0	100.0	100.0

than the rural-nonfarm group. Of the latter group, almost three-fourths of the students proceeded to college directly from high school. This fact is largely responsible for the relative youthfulness which has been observed among rural-nonfarm students. Among the group remaining out of school four or more years, rural-farm students were found in greater proportion than students from either of the other residence backgrounds, particularly the rural-nonfarm.

A check on the number of years between high school and college for students from each of the occupational classes was made. The farm group had the largest proportion reporting a lapse of time between high school and college, but their percentage was nearly equalled by the skilled and semi-skilled and unskilled groups (about 62 per cent from each group proceed directly to college) (Table 6). The college-going habits of these three occupational classes show remarkable consistency. Each apparently relies extensively on work between high school and college to help defray the college expenses. Two-thirds of the clerical group and almost three-fourths of the proprietary and professional groups reported no time interval between high school and college.

SELECTION OF PHYSICAL ANTHROPOLOGICAL TYPES

Of the 1,061 members of the entering class of 1936 for whom height-weight information was available, 800, or 75.4 per cent, were

Table 6. Percentage of Students Classified by Fathers' Occupation and by Years Out of School between High-School Graduation and College Entrance

Fathers' Occupation	Years Out of School			
	None	One	Two and Three	Four and Over
Professional	74.3	12.4	10.5	2.8
Proprietary	72.2	17.9	7.2	2.7
Clerical	66.0	19.1	10.7	4.2
Skilled	61.8	22.0	10.3	5.9
Semi-skilled and unskilled	62.5	15.4	11.8	10.3
Farmer	60.1	22.2	9.8	7.9

within the normal weight range according to the college physical examination; 196, or 18.5 per cent, were underweight; and 65, or 6.1 per cent, were overweight.

The rural-farm students appeared in the normal weight range in the largest proportions (79 per cent), followed by the rural non-farm (78 per cent), and finally the urban students (72 per cent). The difference between the rural-farm and urban proportions proved significant ($P = .040$). It will be noted that the rural-farm group had fewer overweight and fewer underweight individuals than did either of the other residence groups.

A further breakdown of these data by occupational groups shows that the professional group has the fewest overweight of any group, the proprietary group the most. In the underweight class, the professional category has the largest proportion, the farm group the smallest. It seems likely that the professional class includes an abnormal proportion of the small or the slender.

SELECTION FROM THE HIGH-SCHOOL GRADUATING CLASSES BY DECILE RANK

Are the students who enroll at the State College a select segment of the total youth population in the state of Washington? Decile rank²¹ in high-school class provides an excellent measure of selectivity, because its use enables one to ascertain the high-school standing of the student who proceeds to college relative to that of his entire high-school class. Rank in the high-school class was available for 803 of the 1,097 students.

²¹ Each decile represents one-tenth of the class. In a class of 100, the ten lowest-ranking students comprise the first decile.

Students who enrolled at the State College of Washington as freshmen in 1936 were recruited largely from the upper deciles of their high-school classes. In fact, more than two-thirds of all students for whom high-school rank was available came from the upper half of their respective classes. Only 10 per cent of the students came from the lower 20 per cent. Almost without exception, each succeeding higher decile furnished a larger proportion of the college enrollees. One of each five students ranked in the highest decile in this class, and one student in three was from the two highest deciles. The mean high-school percentile rank for all students was 62.0, considerably above the rank of 50.0, which one would expect if no selectivity were involved.

A closer survey of the data reveals that it is the girls who account for the major portion of the observed selectivity. More than 86 per cent of all girls had ranked in the upper half of their high-school classes, with nearly three-fourths grouped in the upper three deciles. The three lowest deciles contributed only four per cent of all girls. Male students showed a much greater tendency to represent the entire range of their high-school classes. Forty-two per cent had ranked in the lower half of their classes. The mean high-school percentile rank for boys was 54.1, significantly low compared with the mean of 76.1 for girls.

An explanation that may be advanced for the comparatively large percentage of college girls with relatively superior high-school records is the fact that girls, on the average, achieve higher scholastic rank in high school than do boys. Doubtless there are numerous other causal factors in addition to this one.

The percentages of students from rural-farm, rural-nonfarm, and urban backgrounds who ranked in each decile of their high-school classes, along with the mean percentile rank of all students from the same resident group, are presented graphically in Figure 4.

The most significant feature revealed is the comparative lack of selectivity in the enrollment of urban students, who came from the lower-decile ranks in high school in much greater proportions than do either the rural-farm or rural-nonfarm students. The mean percentile rank of the urban students was 58.9, compared with 62.7 for the rural-farm and 66.6 for the rural-nonfarm. Sixty-four per cent of the urban students ranked in the upper half of their high-school classes, compared to 69 per cent of the rural-farm and 74 per cent of the rural-nonfarm students. The rural-nonfarm students were an especially select group, with 44 per cent ranking in the 9th and 10th high-school deciles alone.

% OF STUDENTS IN EACH DECILE

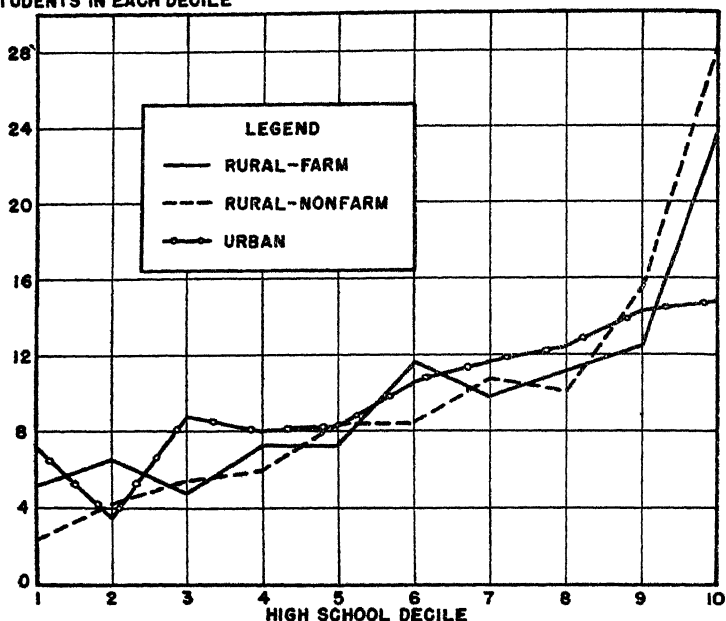


Figure 4. The proportion of rural-farm, rural-nonfarm, and urban students who ranked in each decile of their high-school classes.

The corresponding figures for the rural-farm and urban students were 36 per cent and 29 per cent, respectively.

Selectivity is strongly evident in the enrollment of girls, even from urban areas, although less so than for the rural groups. The mean percentile rank of 72.6 for urban girls compares with 76.6 for rural-farm and 82.8 for rural-nonfarm girls.²²

Boys from urban centers averaged no higher than the middle position in their high-school classes. For cities of 50,000 and over, their percentile rank was even lower (44.9). The mean high-school percentile rank of all students from the largest cities (50,000 and over) was only

²² A further comparison of decile rank in high school for major occupational groups in the college sample shows the following percentile ranks in their respective high schools: all occupations 61.9; professional 65.4; proprietor, 63.5; farmer 62.7; semi-skilled and unskilled, 61.0; clerical 58.8; skilled 58.1. Because college attendance is undoubtedly more universal among the professional group than any other occupational class, the superior school showing probably reflects actual scholastic leadership rather than selectivity. The ratings of the farmer and proprietary groups reflect selection of superior persons for college attendance.

57.6. The implication is that the larger the community of residence the lower is the average high-school rank from which college students are drawn.

SELECTION ON THE BASIS OF MENTAL CAPACITY

A basis for comparing the mental capacity of rural and urban students is found in their performance in the American Council on Education Psychological Examination, developed by L. L. and Thelma Gwinn Thurstone, which has been given for a number of years to each entering student at the State College of Washington.

There has been considerable controversy in certain circles over whether tests of this type actually measure innate mental capacity or divergent educational and experience backgrounds. Because most students of this problem have concluded that rural people possess lower degrees of mental capacity than urban people, rural sociologists in particular have been interested in the problem. Among rural sociologists, Sorokin and Zimmerman²³ and Sims²⁴ have been most outspoken in their criticisms of such rural-urban comparisons based solely on test-score achievements. They contend that the tests most commonly used have been standardized on urban groups and that they measure experience equally as much as they measure native endowment, the experience being that common to the urban rather than the rural environment.

It is not the purpose of this study to discuss the relative merits of the opposing arguments. For present purposes comparisons will be made of the performance of rural and urban students on the psychological examination, and the findings will be accepted as suggestive of the mental capacity of the two groups. In a later section attention will be paid to the levels of scholastic achievement of the two groups in their college work. If on this index it can be shown that no significant differences exist between the intellectual performances of rural and urban students, it can be concluded that the *effective intelligence* of the rural students is not inferior to that of the urban student.

The proportion of rural-farm, rural-nonfarm, and urban students who ranked in each decile on the psychological examination is shown in Figure 5. A distinct association between urban residence and superior performance on the entrance examination is observed. The mean

²³ P. A. Sorokin and C. C. Zimmerman, *Principles of Rural Urban Sociology* (New York: Henry Holt, 1929), Chapter XI.

²⁴ N. L. Sims, *Elements of Rural Sociology*, Revised edition (New York: Thomas Y. Crowell Co., 1935), Chapter XI.

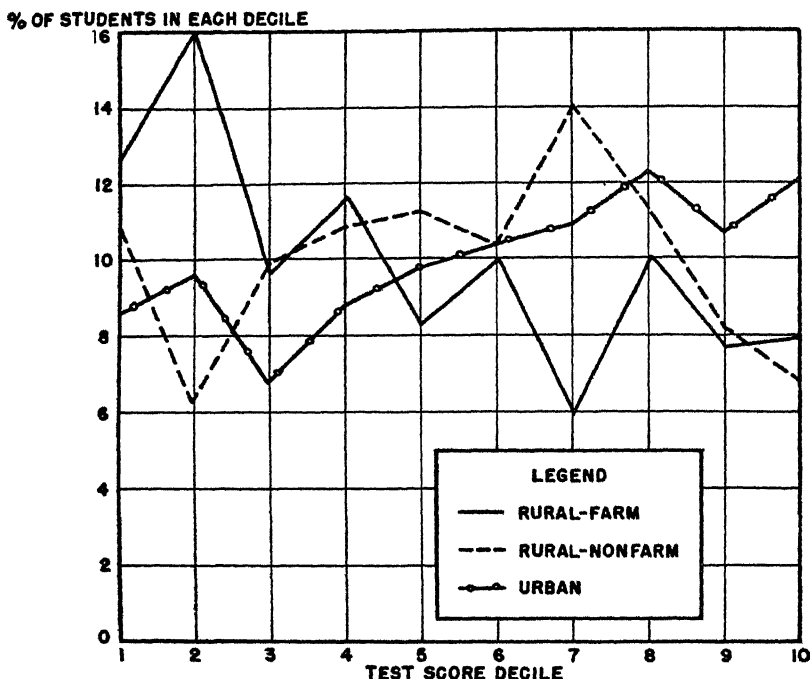


Figure 5. The proportion of rural-farm, rural-nonfarm, and urban students who ranked in each decile in college-entrance-examination score.

percentile rank for all urban students was 53.6, compared with 49.6 for the rural-nonfarm, and 44.3 for the rural-farm. When the urban group was further broken down by size of community, it was found that the larger the city the higher the test score. The mean percentile rank for cities of 50,000 and over²⁵ was 55.9. The differences in percentile ranks of the three residence groups were all statistically significant with the exception of the difference between the rural-farm and rural-nonfarm groups, and even these tended toward significance ($P = .067$).

Almost three-fifths of the rural-farm students ranked in the lower half of examination scores, compared with one-half of the rural-nonfarm and little more than two-fifths of the urban students. Nearly 29

²⁵ Since there are no cities in Washington with populations of 50,000-99,999, this group is made up almost entirely of students from cities of 100,000 or over—principally Seattle, Spokane, and Tacoma.

per cent of the rural-farm students were included within the two lower deciles, with the rural-nonfarm and urban, 20 per cent and 18 per cent, respectively, both significantly lower ($P = .014$ and $.003$). Twenty-three per cent of the urban group ranked in the two highest deciles, compared with 16 per cent and 15 per cent, respectively, for the rural-farm and rural-nonfarm groups.

Girls consistently out-ranked boys on the psychological test in each of the residence groups. The mean percentile rank for all girls was 55.2, and that for boys 46.9. The superior showing made by girls can be partially explained by the greater selectivity of girls with superior high-school records, noted earlier. The differences shown here between the records of boys and of girls are greater than those found in most college studies.²⁶

Even though the urban students who entered the State College in 1936 were recruited from appreciably lower ranks in their high-school classes than were the rural students, they ranked significantly higher on the college-entrance examination. Because these findings are substantiated by many similar studies,²⁷ there appears to be little doubt as to the superiority of the urban population in at least those areas of general mental ability measurable by objective tests.

A comparison made on the basis of fathers' occupation showed a mean percentile rating on the psychological examination of 44.3 for the farm group, a rating significantly below that of any other group (Table 7). As might be expected, the professional group achieved the highest mean percentile rank—57.9. The clerical group had a rating of 55.9, the semi-skilled and unskilled of 51.3, the skilled of 50.9, the proprietary of 49.8. This finding for the farm group is substantiated by many studies in other sections of the country.²⁸

CONCLUSION

This study of the characteristics of the entering class of 1936 at the State College of Washington leaves no doubt as to the operation of selective factors that bring to the campus a group that is in several respects not typical of the population of the state in the college-age

²⁶ For example, at the University of Idaho it was found that, although the girls did considerably better on certain sections of the entrance examination, notably English, their gross score was not much higher than that for boys. C. C. Crawford, "Some Comparisons of Freshman Boys and Girls," *School and Society*, XXIV (1926), 494-96.

²⁷ See titles cited in footnotes 9-11.

²⁸ *Ibid.*

Table 7. Mean Percentile Rank in High-School Class and College-Entrance Examination, by Fathers' Occupation

<i>Fathers' Occupation</i>	<i>Number</i>	<i>Mean High-School Percentile Rank</i>	<i>Number</i>	<i>Mean Percentile Rank on Entrance Exam.</i>
All occupations	747*	61.9	972*	49.9
Professional	79	65.4	102	57.9
Proprietary	168	63.5	215	49.8
Clerical	71	58.8	92	55.9
Skilled	96	58.1	131	50.9
Semi-skilled and unskilled	101	61.0	133	51.3
Farmer	232	62.7	299	44.3

* Includes all students for whom information was available.

group. Boys come in greater numbers than girls, but the girls who come are on the average a more able group, whether one takes as a measure age at the time of college entrance, occupational class from which they are drawn, family educational heritage, ability of the family to finance the child's education, high rating in the high-school graduating class, or high intellectual ability. The evidence is clear that the college is more highly selective of girls than of boys.

With regard to selection on the basis of residence the evidence is not so clear-cut. Rural-farm, rural-nonfarm and urban groups, though they enroll at the State College in approximately the same proportions as their total ratios in the state, reflect different types of selectivity for different traits. Students from urban laboring groups and from the farm group, who often work for a year or more between high-school graduation and college entrance, have a high proportion of students in the older college ages. The farm group also has a high proportion in the younger college group. Parents of urban students are better educated than those of the rural groups, those of farm students having the least training. The farm students come from families with an income higher than that of students from laboring groups, but less than that of the white-collar group. One in four urban students expected parents to finance him through college, compared to one in seven rural students. The farm group had the highest proportion in the normal-weight group of any of the residence groups, the urban group the lowest. Rural students are more often from the high deciles of their high-school graduating classes than are urban students, but urban students make a much better psychological-test score at the time of college entrance.

The discrepancy between high-school decile and psychological-test decile rankings of rural and urban groups suggests that the upper ten per cent of ability in urban centers as measured by decile rank in high school is a much higher level of ability than the upper ten per cent of ability similarly measured in rural areas, inasmuch as urban groups that rank much lower in high school far exceed rural groups in tests which measure general mental ability.

With the fore-going information concerning the characteristics of the rural and urban groups in the entering class of 1936 at the State College, the groundwork is laid for comparing their respective achievements in college.

III. The Comparative Performance of Rural and Urban Students at the State College of Washington

It has been made clear in the preceding chapter that the college selects the cream of the crop from the rural high schools of the state; from the urban schools it selects some of the cream but also dips well down toward the middle of the high-school graduating class for students. Yet the urban group seems to be a more able one as measured by the psychological test administered to all students at the time of college entrance. The rural and urban group have certain other advantages and disadvantages of selection that may help or hinder their college achievement. The problem in this section is to compare the two groups with reference to their adjustment to the college situation by such measures as are at hand.

The college achievements of rural-farm, rural-nonfarm, and urban students are compared on the following basis: (1) first-semester grade-point average; (2) total-college grade-point average; (3) total number of grade points; (4) the frequency of graduation; (5) the mortality rate in successive semesters; and (6) participation and leadership in student activities.

THE GRADE-POINT AVERAGE OF RURAL AND URBAN STUDENT GROUPS

The grade-point average for each student was calculated by dividing his total number of grade points by total number of credit hours. At the State College of Washington, grade points are awarded on the basis of 3 for each credit hour of A, 2 for each hour of B, 1 for each hour of C, 0 for K, and 0 for F. Thus the highest average attainable is 3, and a C average is represented by the numerical value 1.

A comparison of rural-farm, rural-nonfarm, and urban students on the basis of grade-point average for both the first semester and the total college period is found in Table 8. The first-semester average of the rural-farm students is slightly below that of the urban, but the rural-nonfarm is higher than either. (The differences between the rural-nonfarm average of 1.30 and the rural-farm and urban averages of 1.22 and 1.23, respectively, could have occurred by chance 17 times in 100 in each instance.) The superior achievement of the rural-nonfarm students undoubtedly reflects the pronounced selectivity noted in the preceding section.

Table 8. First-Semester and Total-College Grade-Point Averages of All Students, by Residence and Sex

<i>Sex</i>	<i>Total</i>	<i>Rural-Farm</i>	<i>Rural-Nonfarm</i>	<i>Urban</i>
All students				
First semester	1.24	1.22	1.30	1.23
Total college	1.24	1.26	1.27	1.22
Men				
First semester	1.19	1.18	1.24	1.17
Total college	1.19	1.21	1.20	1.17
Women				
First semester	1.34	1.31	1.42	1.33
Total college	1.34	1.35	1.40	1.31

Marked differences on the basis of sex are noted. Girls achieved a first-semester average of 1.34, very significantly above the average of 1.19 for boys. The differences can be attributed to the selective factor and to the general tendency of college girls, because of better study habits and higher value placed on scholarship, to surpass male students in academic performance.²⁹

The grade-point average for the total college period was obtained for each student on the basis of total grade points and credit hours to the time of graduation or leaving college. This average was computed for each student whether he was enrolled but one semester, or whether he remained till graduation.

The rural-farm and rural-nonfarm groups are approximately equal in respect to total-college grade-point average (1.26 and 1.27, respectively), and both rank somewhat higher than the urban (1.22). Once

²⁹ C. C. Crawford, *op. cit.*, pp. 494-96.

again, however, the differences are not large enough to be statistically significant. The difference between the rural-farm and urban groups could have been accounted for by chance 29 times in 100.

This tendency is shown somewhat more clearly in Table 9, which presents the first-semester and four-year grade-point averages for only the graduating members from each of the residence groups. Because their performances are based on tenures of equal length, the groups are more readily comparable.

Table 9. First-Semester and Four-Year Grade-Point Averages of All Graduating Students, by Residence and Sex

<i>Sex</i>	<i>Total</i>	<i>Rural-Farm</i>	<i>Rural-Nonfarm</i>	<i>Urban</i>
All graduates				
First-semester average	1.59	1.53	1.66	1.60
Four-year average	1.62	1.66	1.62	1.69
Male graduates				
First-semester average	1.59	1.50	1.69	1.57
Four-year average	1.65	1.61	1.64	1.68
Female graduates				
First-semester average	1.60	1.62	1.46	1.66
Four-year average	1.69	1.75	1.59	1.71

One is impressed by the relatively high averages prevailing when graduates are considered to the exclusion of other students. In general, they are about one-third of a point higher than the entering class as a whole, whereby it is indicated that the graduates comprise a select group. Satisfactory, and especially superior, scholastic performance is highly associated with persistence in college.

It will be noted that the rural-farm students again ranked slightly below the students from the other residence groups in first-semester average. Their grade-point average of 1.53 compares with 1.60 for the urban, and 1.66 for the rural-nonfarm. (The difference between the rural-farm and urban averages falls far short of statistical significance, but that between the rural-farm and rural-nonfarm averages could have occurred by chance less than 15 times in 100.) When the total college period is considered, the graduating urban students ranked highest, slightly above the rural-farm. The rural-nonfarm students had dropped from first to last position.

The rural-farm group showed the greatest improvement between first-semester and total-college scholastic performance, its final average

of 1.66 being 8.0 per cent higher than the first-semester figure. The urban graduates showed an improvement of 5.4 per cent, whereas the rural-non-farm average declined by 2.1 per cent. Rural-farm graduates, though slightly disadvantaged in the early stages of the college experience, succeed in making satisfactory scholastic adjustments. The implication is that the deficiencies in the pre-college training and cultural backgrounds of rural-farm students may have been overcome by exposure to the college environment. As the "culture shock" wore off and the rural-farm students became increasingly better adapted, they succeeded in raising the level of their scholastic achievement.

When the graduating group is considered alone, the discrepancy between the scholastic achievements of the two sexes tends to diminish. Girls showed only a slight superiority in both first-semester (1.60, compared to 1.59 for the boys) and four-year grade-point average (1.69, compared to 1.65 for the boys). This is particularly true within the rural-nonfarm group, where the boys actually surpassed the girls. A larger proportion of scholastic failures is found among the boys, but if the low-ranking students are eliminated by limiting coverage to the graduating group, the scholastic achievements of college men and women tend toward equality.

If comparison is made on an occupational basis (Table 10), a difference of somewhat greater magnitude is discernible. The professional group, possessing the greatest aptitude as demonstrated by both high-

Table 10. First-Semester and Total-College Grade-Point Averages of All Students, by Fathers' Occupation
(Mean ratings)

<i>Fathers' occupation</i>	<i>Number of Cases</i>	<i>First-Semester Average</i>	<i>Total-College Average</i>
All occupations	940	1.25	1.25
Professional	100	1.34	1.28
Proprietary	213	1.20	1.20
Clerical	87	1.23	1.23
Skilled	126	1.29	1.27
Semi-skilled and unskilled	125	1.26	1.28
Farmer	289	1.22	1.26

school record and psychological score held the highest average during the first semester. The skilled group ranked next, followed by the semi-skilled and unskilled, clerical, farmer, and proprietary groups. The differences between the professional average (1.34) and the farm (1.22)

and proprietary (1.20) averages are enough to approach statistical significance ($P = .110$ and $.064$, respectively). It is the performance of the proprietary class, the most numerous non-farm grouping, which reduces the scholastic averages of the rural-nonfarm and urban groupings. Their relatively poor showing is somewhat difficult to explain. As was mentioned above, however, their performance in the psychological test suggests they are inferior in aptitude to all occupational groups except the farmer category. They represent a wide variety of backgrounds, but because of their fairly secure economic position college attendance is widespread, with selectivity less marked than for most occupational groups.

The scholastic differences by fathers' occupation tend to lessen if comparison is made on the basis of total-college average. The average of the professional group, at the top of the occupational ladder, is exactly equalled by that of the semi-skilled and unskilled group, which is usually considered at the bottom rung of the ladder. The factor of selection is probably responsible, inasmuch as there seems to be a tendency for only the more able students from the laboring classes to go to college. The proprietary group again ranks lower than any other occupational class. None of the differences, however, approach statistical significance. The farm students showed the greatest improvement over the first-semester average, followed by the semi-skilled and unskilled group, who likewise might be expected to find the initial adjustments somewhat difficult.

An attempt was made to find a single measure which would combine scholarship and persistence. For this, the total number of grade points was used, a measure which is influenced not only by the grade-point average but also by persistence in college.

One problem presented itself in the use of this device. Should the student who secured more than the 128 credit hours required for graduation receive a "bonus" of the grade points earned on the excess credits? Such a procedure would react to the advantage of the student who changed his major frequently or who for some other reason obtained a greater number of credits than are called for in the normal college course. It was decided that 128 credit hours was the maximum number on which grade points would be computed. Thus the possible range was from 0 to 384 grade points, the latter figure representing 128 hours of straight-A work. Each student was ranked in one of 12 categories, on the basis of total number of grade points earned, as fol-

lows: (1) 0-15.9, (2) 16-31.9, (3) 32-63.9, (4) 64-95.9, (5) 96-127.9, (6) 128-159.9, (7) 160-191.9, (8) 192-223.9, (9) 224-255.9, (10) 256-287.9, (11) 288-319.9, and (12) 320-384. For certain comparisons categories were combined. The proportions of each residence and occupational group in the various grade-point categories, along with the average number of grade points earned by students from each group, are shown in Tables 11 and 12.

The first group (0-15.9 grade points) is composed largely of students who dropped out of college during or after their first semester

Table 11. Total Grade Points Earned to Time of Graduation or of Leaving College, by Residence and Sex
(Percentage distribution)

		<i>Total</i>	<i>Rural-Farm</i>	<i>Rural-Nonfarm</i>	<i>Urban</i>
All students		1075	305	232	502
Male		713	202	155	323
Female		362	103	77	179
Grade-point interval					
0- 15.9	Both sexes	19.3	17.1	16.8	21.1
	Boys	24.1	21.8	22.6	25.7
	Girls	9.9	7.8	5.2	12.9
16- 31.9	Both sexes	13.5	12.8	15.5	13.5
	Boys	11.2	9.9	13.5	11.5
	Girls	18.0	18.4	19.5	17.3
32- 63.9	Both sexes	16.2	16.1	17.3	15.9
	Boys	14.2	16.3	14.2	13.0
	Girls	20.2	15.6	23.3	21.2
64-127.9	Both sexes	15.7	15.7	12.9	16.5
	Boys	15.4	14.4	14.2	16.1
	Girls	16.3	18.4	10.4	17.3
128-191.9	Both sexes	16.7	18.0	18.5	15.6
	Boys	17.0	18.3	16.1	17.3
	Girls	16.0	17.5	23.4	12.3
192-255.9	Both sexes	12.4	15.4	12.5	10.4
	Boys	12.1	14.8	12.9	9.6
	Girls	12.9	16.5	11.7	11.7
256-364	Both sexes	6.2	4.9	6.5	7.0
	Boys	6.0	4.5	6.5	6.8
	Girls	6.7	5.8	6.5	7.3
Mean number of grade points					
	Boys	96.4	100.3	96.0	94.1
	Girls	103.1	111.8	107.3	97.5

Table 12. Total Grade Points Earned to Time of Graduation or of Leaving College, by Fathers' Occupation
(Percentage distribution)

<i>Grade-Point Intervals</i>	<i>All Occupations</i>	<i>Professional</i>	<i>Proprietary</i>	<i>Clerical</i>	<i>Skilled</i>	<i>Semi-Skilled and Unskilled</i>	<i>Farm</i>
All intervals							
Number	993	102	222	93	135	136	305
Per cent	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0- 15.9	18.4	15.7	17.1	19.4	20.7	22.8	17.1
16- 31.9	14.0	14.7	17.6	12.9	9.6	15.4	12.8
32- 63.9	15.9	17.7	16.7	15.0	12.6	16.9	16.1
64-127.9	15.2	18.6	15.7	13.9	14.1	13.3	15.7
128-191.9	17.5	15.6	19.4	14.0	19.3	15.5	18.0
192-255.9	12.4	9.8	8.1	18.3	16.3	6.6	15.4
256-384	6.6	7.9	5.4	6.5	7.4	9.5	4.9
Mean number of grade points	98.7	100.9	92.1	102.9	109.9	92.5	104.2

in attendance, along with some low-scholarship students who were in attendance more than one semester but who failed to earn more than enough grade points to equal 16 hours (the normal semester load) of C-grade work.

A larger proportion of the urban than of the rural-farm and rural-nonfarm students are in the bottom category. More than 20 per cent of urban students in the entering class accumulated fewer than 16 grade points while in college. Twenty-five per cent of urban boys are in the lowest performance area, as against one in eight females. The rural-farm and rural-nonfarm groups had smaller proportions in the same category—approximately one in six for each group. The differences were especially marked for the girls, those from the rural groups appearing in the lowest performance area only about one-half as frequently as those from the urban group.

Approximately the same proportion from each residence group was included among the eminently successful students ranking in the two highest categories. The rural-farm group was slightly low, however, in its proportion in the highest performance area, which includes only those students who maintained at least a B average and persisted in college till graduation.

In the mean number of grade points earned by students from each of the residence groups, the rural-farm students ranked first, followed

by the rural-nonfarm, then the urban. The respective means were 104.2, 99.8, and 95.3. The standard deviations were so large (84.7 for the rural-farm and 87.7 for the urban) as to indicate wide dispersions within the various residence groups. Since the test for significance between two means is influenced by the size of the standard deviation, the difference between the rural-farm and urban groups, although numerically large (8.9 points), falls short of statistical significance. (The possibility that an actual difference does exist should not be discounted entirely, because the observed difference could have occurred by chance only 15 times in 100.)

Significant differences are to be noted between the sexes as to grade-point categories in which concentration occurs. Boys were heavily represented in the bottom performance area, almost one in every four failing to secure as many as 16 grade points before being dropped from college. Only 10 per cent of the entering girls made so low a record. The grade-point-interval brackets with the highest percentages of girls were the second and the third. Because of the comparatively high scholarship of girls, a much larger percentage of female students who drop out in their first college year rank in those two categories than in the lowest. Above the third interval, the differences between the sexes are very slight, with the two sexes contributing about the same proportions to the higher grade-point categories. Chiefly because of their larger proportion in the higher performance area, girls achieve a somewhat greater average number of grade points than boys—103.1, compared with 96.4.

In Table 12 the distribution of students according to grade-point intervals is presented by fathers' occupation, along with the mean number of grade points earned by students from each occupational group. It will be noted that the achievement of the farm group is surpassed only by that of the skilled group. Ranking behind these two groups in the order named were the clerical, professional, semi-skilled and unskilled, and proprietary.

The professional group had a slightly smaller proportion of its numbers in the very lowest performance area (15.7 per cent) than did any other group. The laboring groups tended to concentrate rather heavily in the lowest interval, principally because of their male predominance. The professional, skilled, and semi-skilled and unskilled groups contributed most heavily to the uppermost interval—7.9 per cent, 7.5 per cent, and 9.5 per cent, respectively. The semi-skilled and

unskilled group had the largest proportion in both the lowest and the highest performance areas. Heavy early mortality and predominance of males account for the concentration in the lowest interval, and the factor of selection for their concentration in the highest interval. The mediocre showing of the professional group is partially accounted for by transfer to other colleges, which will be discussed later.

FREQUENCY OF GRADUATION AMONG RURAL AND URBAN STUDENTS

The simplest and most exact criterion of college success is the ability or inability to complete the college course and meet the requirements for graduation.

Well over half of the students in a typical college-entering class fail to graduate. The extremely high rate of mortality is due to a number of factors, foremost among which are (1) scholastic deficiency, (2) loss of interest in the college curriculum, (3) financial difficulty, (4) ill health, (5) necessity of assuming responsibility for family support, and (6) the entrance of a certain number of students who have no intention of completing a four-year course.³⁰

Of the 1,097 students who entered the State College of Washington in the fall of 1936, only 317, or 29 per cent, had graduated by September, 1941 (Table 13). Testifying to their greater persistence, rural-farm students graduated in larger proportions than did students from either of the other residence groups. Thirty-three per cent of the rural-farm students had graduated, compared with 29.2 per cent of the rural-nonfarm and 26.4 per cent of the urban students. The only deviation was the slight tendency for rural-nonfarm girls to graduate in larger proportions than rural-farm girls. The difference between the proportions of graduates among the rural-farm and urban groups was significant ($P = .0414$).

In contrast to their relative standing on other criteria of success, boys furnished a larger proportion of graduates than did girls—29.5 per cent compared with 27.7 per cent. This situation was found among both rural-farm and urban students, but was reversed within the rural-nonfarm group. The boys, in keeping with the greater value which our

³⁰ See (1) G. R. Moon, "The Student Who Drops out of College," *School and Society*, XXVII (1928), 576-78; (2) J. H. McNeely, *College Student Mortality*, Bull. 11, Office of Education, Washington, D. C. (1937), pp. 46-47; (3) Louise M. Snyder, "Why Do They Leave?" *Journal of Higher Education*, XI (1940), 26-32; and (4) Fred T. Mitchell, "Why Freshmen Leave College," *Journal of Higher Education*, XIII (1942), 97.

Table 13. Percentages of Boys and Girls, Classified by Residence, Graduating and Not Graduating from the State College

<i>Residence</i>	<i>Graduating</i>		<i>Not Graduating</i>	
	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>
Rural-farm	34.2	30.8	65.8	69.2
Rural-nonfarm	27.7	32.1	72.3	67.9
Urban	27.3	24.9	72.7	75.1
Total	29.5	27.7	70.5	72.3

culture places on college education for men, have more at stake in completing their college courses. Many feel that their entire future occupational adjustment is dependent upon their ability to graduate. Many girls, particularly those enrolled in such courses as secretarial science, have no intention of earning a degree. A number of others marry before completing their courses. Marriage is more likely to terminate the college career of the girl than of the boy.

The occupational classes showing the greatest ability to graduate were the farmer, skilled, and clerical, from each of which one student persisted to graduation out of every three originally enrolled (Table 14). In the lower ranks were the professional, proprietary, and semi-skilled and unskilled groups, each of which had but one graduate for every four entering students. The tendency for students to transfer to other institutions provides at least a partial explanation for the relatively poor showing of these groups. It was found that 36 per cent of the non-graduating students from the professional class and 33 per cent

Table 14. Number and Per Cent of All Entering Students Who Had Graduated at the State College Prior to September 1941, by Sex of Student and by Occupation of Fathers

<i>Fathers' Occupation</i>	<i>All Graduates</i>		<i>Boys</i>		<i>Girls</i>	
	<i>Number</i>	<i>Per cent</i>	<i>Number</i>	<i>Per cent</i>	<i>Number</i>	<i>Per cent</i>
All occupations	317*	28.9	213	29.5	104	27.7
Professional	28	26.7	12	22.6	16	30.8
Proprietary	57	25.4	34	28.1	23	22.3
Clerical	31	33.0	23	35.9	8	26.7
Skilled	45	33.1	35	34.0	10	30.3
Semi-skilled and unskilled	35	25.5	22	31.8	13	36.1
Farmer	101	33.0	69	34.2	32	30.6

* For 20 of these, the occupation of the fathers was not ascertained.

from the proprietary had had their transcripts of credits sent elsewhere at the time of withdrawing from the State College. The students from farm and laboring classes ranked considerably lower in this respect. The students from the professional and proprietary groups are likely to possess a more secure and independent economic status, and thus are able to move on to another college if for some reason they are dissatisfied with the institution of original entry. Furthermore, students from these classes, through their relatively broad experience backgrounds, are more likely to select vocations requiring specialized training not available at the State College. Students from the farm and laboring occupations tend to be much more limited in their occupational outlook.

The grade-point averages for the transferring group showed that, though the group as a whole was somewhat inferior in scholarship, the transfer students from the professional class ranked significantly high. Apparently the State College loses some of the most able members of this occupational group by transfer to other institutions. This factor would help explain the failure of the professional group to rank appreciably higher than other occupational groups in grade-point average over the college period.

Because of the likelihood that a considerable number of students graduate after transfer to other colleges, an attempt was made to make allowance for such graduates by computing a "refined" rate of graduation for each residence group. The refined rates, given in Table 15, are based on (1) graduates at the State College, (2) the students still

Table 15. Estimated Net Graduation and Mortality Rates, by Residence

<i>Graduation and Mortality Rates</i>	<i>Total</i>	<i>Rural-Farm</i>	<i>Rural-Nonfarm</i>	<i>Urban</i>
All entering students	1097*	306	233	511
Number graduated from the State College of Washington	317	101	68	135
Number still enrolled (1941-42) and likely to graduate	39	10	10	15
Estimated number graduating from other colleges	40	7	12	21
Total number of graduates	396	118	90	171
Per cent of entering students that graduate	36.1	38.6	38.6	33.5

* For 8 of these, no information concerning residence was available; and for 39 others, though they were known to be from rural communities, it was not ascertained whether they belonged to the rural-farm or to the rural-nonfarm categories. See Table 1.

enrolled during the 1941-42 college year and likely to graduate, and (3) the estimated number who had graduated from other colleges. The information concerning graduates from other schools was made available through a follow-up study of the same college class being currently conducted by the Division of Rural Sociology at the State College of Washington. From a sample which included approximately 40 per cent of the class, the number of students from each residence group who had received degrees from other colleges was ascertained. Projections made from these samples gave a total of forty students who had graduated elsewhere. An additional thirty-nine students from the original entering class were found to be still enrolled at the State College without degrees. This group had earned an average of about 109 credit hours, and most of them were not far short of the number of credits required for graduation. Although a few of these thirty-nine students may not complete their courses, the entire group was regarded as potential graduates and included in the selected sample.

The refined rate of graduation was found to be 36.1 per cent. Somewhat over one-third of the members of the entering class of 1936 had either graduated by six years from date of entrance or were still enrolled and likely to graduate. Each of the rural groups had a graduation rate of 38.6 per cent, whereas the urban group ranked somewhat lower with a rate of 33.5 per cent. The tendency for a larger proportion of rural-farm students to graduate than students from the other residence groups is lessened by the foregoing refinement process. The difference between the mortality rates of rural-farm and urban student groups, however, is still appreciable and approaches statistical significance ($P = .140$).

THE MORTALITY OF RURAL AND URBAN STUDENTS IN SUCCESSIVE SEMESTERS

Studies of college mortality point to rather consistent patterns with regard to the semesters in which students drop out of college. It is generally reported that the heaviest mortality occurs in the first, second, and fourth semesters.³¹ The first-semester "drops" are largely inferior students who find themselves unable to meet the academic demands. This is somewhat true, but to a lesser extent, of the second semester as well. The fourth semester, or end of the second year, marks a natural break in the college program, and the students who drop out at this

³¹ McNeely, *op. cit.*, pp. 20-21.

point do so for a variety of reasons. Students who survive elimination during the first two years are likely to continue on to graduation.

How do rural and urban student groups compare as to number of semesters attended before dropping out of college?

It is seen (Fig. 6) that the rural-farm students had a slightly higher first-semester mortality rate than did rural-nonfarm and urban students (none of the differences attaining significance). Yet on the basis of

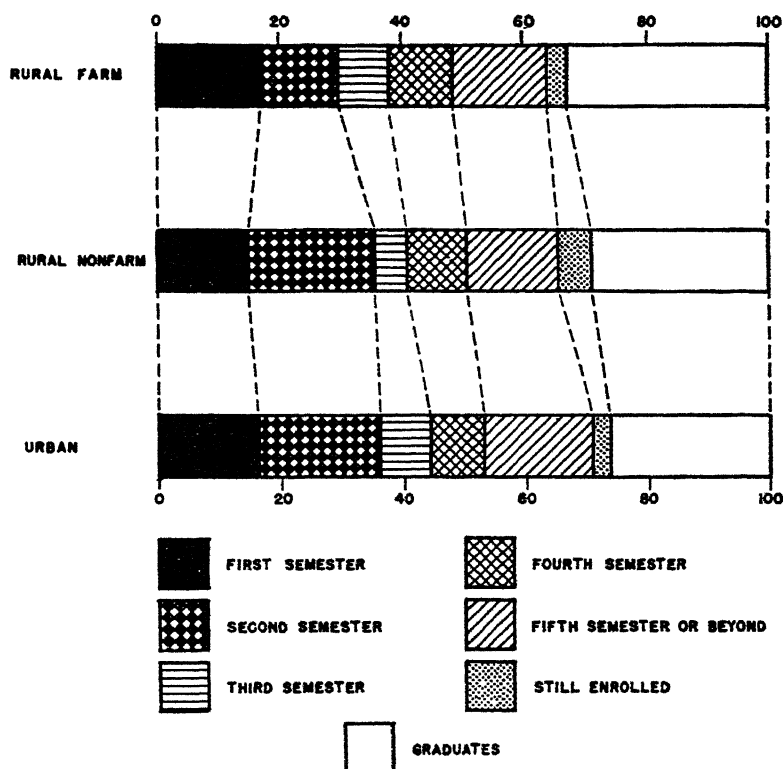


Figure 6. Mortality rates for successive semesters, and total mortality rates for rural-farm, rural-nonfarm, and urban students.

mortality during the first year (first and second semesters), the rural-farm group was significantly low—29 per cent, compared with 35 per cent for the rural-nonfarm group and 36 per cent for the urban. (The difference between the rural-farm and urban proportions could have

been accounted for by chance 14 times in 100.) A tendency is observed for rural-farm students to be more successful in surviving elimination during the first college year. After the first year no marked differences are found among residence groups.

The tendency for boys to drop out during or after the initial semester was strikingly evident. Almost 19 per cent of the boys, but only 10 per cent of the girls, were eliminated during or at the end of the first semester. Girls showed a marked tendency to leave college in the second and fourth semesters. Twice as large a proportion of boys as girls were still enrolled at the State College during the year 1941-42. Boys are more likely to have graduation delayed by intervening employment or scholastic deficiency, but are more likely to return to college to graduate.

RURAL-URBAN PARTICIPATION AND LEADERSHIP IN STUDENT ACTIVITIES

There was a time in the evolution of the American college when superior scholastic achievement afforded almost the only opportunity for a student to attain eminence and distinction among his fellows. Since then, however, the philosophy of education has undergone changes, with an accompanying restatement of values.³²

As an expression of this change in philosophy, participation and leadership in student activities have taken on increased prestige. A majority of students seem to place at least as high value on the editorship of the college newspaper or a starring role on a varsity athletic team as on the attainment of high scholastic honors. College authorities, too, have come to recognize the value of participation and leadership in activities as essential and valuable training for later life. There is ample justification, then, for regarding participation and leadership as important criteria of college success.

All students in the present study were rated on an activities index, with the following weights assigned to varying degrees of participation :

Leadership as indicated by elective office or major-committee appointment	3
Minor-committee appointment and membership in honorary societies	2
Other membership or activity	1

A student received the corresponding weight for each separate activ-

³² W. H. Cowley, "Intelligence Is Not Enough," *Journal of Higher Education*, IX (1938), 469-77.

ity in which he engaged. Because the ratings were cumulative and not comparable for individuals or groups unless the persons had been in attendance for approximately equal periods of time, it was decided to limit the analysis to the graduating members of each residence group.

The percentage of rural-farm, rural-nonfarm, and urban students who ranked in each class interval on the activity index, as well as the mean activity score for members of each group, is shown in Table 16.

Table 16. Index of Participation of All Graduating Rural-Farm, Rural-Non-Farm and Urban Students, by Class Intervals
(Percentage distribution)

<i>Activity Score by Intervals</i>	<i>Total</i>	<i>Rural-Farm</i>	<i>Rural-Nonfarm</i>	<i>Urban</i>
0- 4.9	32.6	37.0	41.2	25.2
5- 9.9	21.7	22.0	17.6	23.7
10-14.9	14.7	14.0	10.3	16.3
15-19.9	11.8	14.0	13.2	9.6
20-24.9	8.0	5.0	4.4	12.6
25-29.9	4.8	4.0	5.9	4.4
30 and over	6.4	4.0	7.4	8.2
All scores	100.0	100.0	100.0	100.0
Mean				
activity score*	11.21	9.70	10.99	12.54

* Computed from the individuals' scores, not from the class intervals.

High percentages in the lower activity brackets is seen for both the rural-farm and rural-nonfarm groups. The urban group had a substantially smaller proportion of its members in the lowest bracket—25 per cent, compared with 37 per cent for the rural-farm and 41 per cent for the rural-nonfarm—and more than twice as large a proportion in the highest bracket (scores of 30 or over) as did the rural-farm. The mean activity score showed a definite tendency to vary directly with the degree of urbanness, the rural-farm group averaging 9.70, the rural-nonfarm 10.99, and the urban 12.54. The difference between the means for the rural-farm and urban groups was found to be significant ($P = .031$).

The relatively greater participation and leadership of the urban students can best be understood by reference to their cultural heritage. Urban culture, with its multiplicity of stimuli and its pattern of extensive, if not deep-rooted social interactions, equips its members particularly well for dealing with and exercising leadership over other persons.

The urban world places a premium upon the manipulation of human beings, whereas in the farm environment manipulation is of things—animate and inanimate. The student from a farm background is likely to be less adept at making personal contacts and adjusting himself to the wide variety of new situations incidental to occupying positions of leadership.³³

Though a thorough-going analysis of the types of activities in which rural and urban groups participated and assumed leadership might have proved valuable in rounding out the picture of the respective adjustment processes, such an analysis was not attempted. Comparison is limited to the relative extent of fraternity-sorority membership and to the frequency with which male students participated in freshman and varsity athletics.

The incidence of fraternity-sorority membership is presented for all graduating members of the three residence groups in Fig. 7. Approximately one-half of the graduating students claimed fraternity-sorority

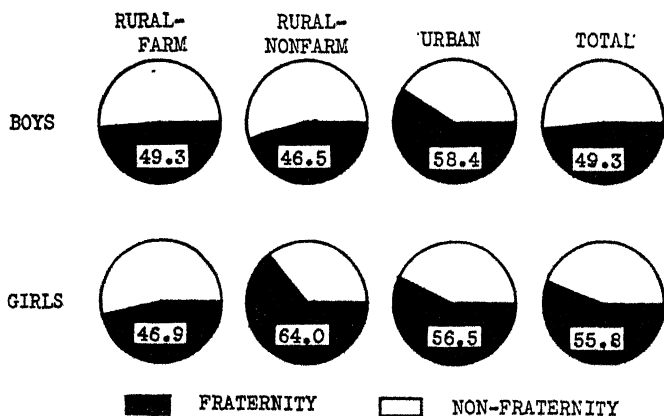


Figure 7. Fraternity-sorority membership of all graduating students, by residence and sex.

membership, with girls tending toward membership in slightly greater proportions than boys. The proportions for the two sexes were 56 per cent and 49 per cent, respectively. In general, membership seemed to be positively associated with urbanness. Forty-eight per cent of the

³³ For a discussion of the characteristics of campus leaders, see E. C. Hunter and A. M. Jordan, "Analysis of Qualities Associated with Leadership among College Students," *Journal of Higher Education*, X (1939), 497-509.

rural-farm, 53 per cent of the rural-nonfarm, and 58 per cent of the urban students were fraternity or sorority members. (These differences between the rural-farm and urban proportions could have occurred by chance 15.6 times in 100.)

The smaller proportion of fraternity-sorority membership on the part of rural-farm students may be a reflection of lower economic status, less satisfactory social adjustment, or the attachment of less value to this type of activity than is found among urban students. Certainly the background of the farm youth would not equip him for participation in the social phases of fraternity life to the same extent as that of the urban student. Parental sanction might not be so readily forthcoming; farm groups evidently do not place as much emphasis on such aspects of college life as do urban groups.

The proportion of rural-farm, rural-nonfarm, and urban male students who received freshman and/or varsity athletic awards discloses a surprising domination of the athletic realm by urban groups (Table 17). Although urban areas contributed less than one-half of the total male enrollment, they produced three-fifths of the athletes. The urban

Table 17. Per Cent of Male Students Who Received Freshman and/or Varsity Awards in Athletics, by Residence of Student and Sport for Which Award Was Made*

<i>Residence</i>	<i>Football</i>	<i>Baseball</i>	<i>Track</i>	<i>All Other</i>
Rural-farm	16.0	42.8	13.3	23.1
Rural-nonfarm	4.0	28.6	20.0	17.9
Urban	80.0	28.6	66.7	59.0
All residences	100.0	100.0	100.0	100.0

* There were 21 rural-farm, 15 rural-nonfarm, and 57 urban winners of athletic awards.

predominance was especially marked in respect to football, in which twenty of the twenty-five award winners, or 80 per cent, were from urban communities. Similarly, two-thirds of the "track" athletes came from the urban ranks.

The foregoing data would tend to disprove the belief that it is the husky farm youth who furnishes the material for the college athletic squad. The explanation once again lies in the backgrounds and pre-college training of the respective groups. The college athlete, especially in a large institution, must usually have devoted years to training and conditioning. Large high schools in urban areas have the facilities for teaching skills in a wide range of athletic sports, as well as the inter-

scholastic competition for their development. Much natural athletic talent goes undiscovered in smaller schools, where programs of athletic training and competition are often practically non-existent. Then, too, the heavy demands of farm work after school hours prevent farm boys from devoting the time required for the development of athletic skills. Furthermore, it is the "star" athlete from urban areas who receives the press releases for his high-school exploits, and special efforts are made to recruit him for the college team.

It is interesting to note that baseball is the only sport in which the rural groups participate in disproportionately large numbers. Baseball has long been the traditional rural sport. Small towns and open-country neighborhoods almost invariably boast of baseball teams, and the rural youth grows up with the game on the sandlot or pasture.

CONCLUSIONS

There are no significant differences between the rural-farm, rural-nonfarm, and urban students in first-semester grade-point average, although the rural-farm group has the lowest average and the rural-nonfarm group the highest. Somewhat greater differences are found among the occupational groups. The first-semester average of the professional group is particularly high. The differences between the professional group, on the one hand, and the proprietary and farmer groups, on the other, tend toward, but do not attain, statistical significance. No significant differences were found when the grade-point average was computed for students from the various residence and occupational groups on the basis of total college performance to the time of graduation or of leaving school. The slight advantage which exists is in favor of the rural groups. When the comparison was limited to the graduates alone, it was found that the rural-farm students ranked somewhat below the other groups in first-semester performance. For the four-year period, the grade-point average of the rural-farm group was above that for the rural-nonfarm and not far behind that of the urban group. A greater improvement between first-semester average and four-year average was shown by the rural-farm group than by either of the other residence groups.

In total number of grade points earned, the rural-farm students, by virtue of greater persistence in college, surpassed the students from the other residence groups. The difference between the rural-farm and urban groups approached statistical significance. Among the occupational classes, only the skilled surpassed the farmer in total grade points.

The rural-farm students tended to persist to graduation in larger proportions than students from the other groups. The urban students ranked significantly low. Among the occupational classes, the farmer, skilled, and clerical workers showed the greatest incidence of graduation. Fewer rural-farm students than others were eliminated during the first year at college.

Urban students achieved greater success than students from the rural groups in the extent of participation and leadership in student activities. Urban students showed a somewhat greater frequency of membership in fraternities and sororities, and a marked tendency to participate more extensively in freshman and/or varsity athletics than did students from rural backgrounds.

It is clear from this analysis that the urban students, in spite of superior scores in psychological tests, failed to achieve significantly higher scholastic success than rural students. The implication is that scholastic performance in college is conditioned by other factors in addition to those measured by tests in mental alertness. When persistence is used as a measure of success, rural-farm students actually tend to measure higher in achievement than do urban students. Only in participation and leadership in activities, a realm for which their social and cultural backgrounds especially equip them, do urban students achieve significantly greater success than students from rural backgrounds.

An attempt will now be made to explain the discrepancies existing between the expected and actual college performance of rural and urban student groups.

IV. Factors Found Significant in Success of Rural and Urban Students at the State College of Washington

College studies have demonstrated that discrepancies between the expected and actual achievements of students or groups of students invariably occur. Conditioning home and family influences, the possession or want of satisfactory habit patterns, the burden of financial worries, the adequacy of pre-college training, initiative, the will to succeed, the influences of new associates and surroundings in the college environment—these and many other subtle influences are frequently strong enough to upset the predicted level of achievement as indicated

by rank in the high-school class and by intelligence-test score or other indices of ability.

The findings of this study would indicate that there is a failure on the part of urban students to measure up to the level expected of them, or a tendency for the rural groups to surpass their expected level, or a combination of both. In an attempt to understand the comparative rural-urban performance levels, the residence groups are compared in this chapter on the bases of the factors found to have significant positive or negative association with college success. The total number of grade points was used as the measure of success.

AGE AS A FACTOR IN COLLEGE SUCCESS

In agreement with the findings from previous research,³⁴ this study reveals a tendency for success in college to vary inversely with age at entrance. Each of the younger age brackets—16, 17, and 18—showed significant positive association with success, whereas the performance of students in the 19, 20, 21, and 22 year age groupings was significantly low, as will be seen from Table 18. It should be observed, however, that there is a general tendency for students in the most advanced age brackets (23 years and over) to achieve greater success than the

Table 18. Correlation of Grade Points with Age at Entrance to College

Age at Entrance	Mean Number of Grade Points†
16-17	123.67*
18	114.85*
19	86.34-
20	88.11-
21-22	84.71-
23 and over	101.62
All ages	99.69

† The asterisk (*) indicates positive statistical significance or a tendency toward significance; the dash (-) indicates statistical significance or tendency toward significance associated with lack of success.

³⁴ See B. F. Pittenger, *The Efficiency of College Students as Conditioned by Age at Entrance and Size of High School*, 16th Yearbook of the National Society for the Study of Education (Bloomington, Ill.: Public School Publishing Co., 1917); C. W. Odell, *Predicting the Success of College Freshmen* (Urbana: University of Illinois, 1927); C. W. Odell, "The Effect of Early Entrance upon College Success," *Journal of Educational Research*, XXVI (1933), 510-12; H. A. Gray, *Some Factors in the Undergraduate Careers of Young College Students* (New York: Teachers College, Columbia University, 1930); P. S. Dwyer, "The Correlation between Age at Entrance and Success in College," *Journal of Educational Psychology*, XXX (1939), 251-64.

average for all students (101.6 grade points, compared with 99.7). This finding, which is general among college studies, reflects a definite purposefulness on the part of the student who returns to college after a lapse of several years. The very fact of his return to education demonstrates a strong motivation and will to succeed.

Contrary to popular belief, it was shown (pp. 226-27) that the rural groups on the whole are younger than the urban, this being particularly true of the rural-nonfarm students. Both the rural-farm and rural-nonfarm groups have significantly larger proportions of their numbers in the 16-to-18-year age brackets than does the urban ($P = .0072$ and $.0003$, respectively) group. Moreover, the urban group had a significantly larger proportion (59 per cent) than the rural-farm (49 per cent) and rural-nonfarm (49 per cent) groups in the 19-22 year range, which is associated with below-par college performance. In the most advanced age brackets (23 years and over), the rural-farm group had the largest proportion, and both the rural-farm and urban were distinctly higher than the rural-nonfarm.

If the association between age and college success is reliable, the peculiar age distribution of the three residence groups would favor superior performance on the part of rural students. Caution should be used in attaching significance to this factor, however, inasmuch as intelligence, which bears a negative association with age at entrance, may be the basic underlying variable. Nevertheless, the relative concentration of students in those age groups which achieve greatest success in college may be advanced as a partial explanation for the rural students' high level of performance.

NUMBER OF YEARS OUT OF SCHOOL AS A FACTOR IN COLLEGE SUCCESS

The fact has been fairly well substantiated that a time interval between high school and college is generally associated with a relatively high level of college performance. This finding is upheld for the State College of Washington group by the data in Table 19. It will be observed that those students who remained out of school two or three years earned a slightly greater number of grade points than the mean for all students, and that the group which remained out of school four or more years ranked very significantly high. Persons of the latter group average 120.73 grade points, compared with 99.07 for all students.

It has already been shown (Table 5) that the rural-farm group tends to remain out of school longer than the other groups. Their

Table 19. Comparison of Number of Years Out of School on Basis of Grade Points

<i>Years Out of School</i>	<i>Mean Number of Grade Points†</i>
None	97.96
1	93.46
2-3	103.93
4	120.73*
All intervals	99.07

† See footnote to Table 18.

greater tendency to postpone college entrance one or more years may be a factor in their relatively high level of performance.

EDUCATION OF PARENTS AS A FACTOR IN COLLEGE SUCCESS

A somewhat surprising finding of most college studies is the apparent lack of association between success in college and the amount of education of the parents.³⁵ In this study it was found that the mean number of grade points earned by students whose fathers and mothers had attended college was greater than the mean for all students (Table 20). Oddly enough, however, the achievement of students whose par-

Table 20. Correlation of Students' Scholarship with Parents' Education

<i>Education</i>	<i>Mean Number of Grade Points†</i>	
	<i>Fathers' Education</i>	<i>Mothers' Education</i>
Elementary	112.0	110.67
High School	98.7	100.36
College	111.6	110.07
Business College	101.5	96.00
All other	80.8-	88.40
All types	105.71	104.87

† See footnote to Table 18.

ents had attended college was slightly below that of those whose fathers and mothers had received no more than an elementary-school education. The students whose parents had stopped schooling at the high-school level ranked considerably below either. Other types of fathers' edu-

³⁵ E. L. Clark, at Northwestern, found no relationship between education of parent and student scholarship. Students whose parents had attended elementary or high school achieved somewhat higher rank than those whose parents had received college training. (E. L. Clark, "Family Background and College Success," *School and Society*, XXV [1927], 237-38.)

cation (including industrial and trade schools) bore a significant negative association with college success.

Findings reported in Table 2 show that a higher level of education is attained by parents of State College of Washington students from urban than from rural areas. Since, however, no consistent association was found between scholastic success and education of parents, the comparative lack of education in their family backgrounds probably does not handicap the rural students in their educational adjustments.

RANK IN HIGH-SCHOOL CLASS AND IN ENTRANCE EXAMINATION AS FACTORS IN COLLEGE SUCCESS

The relative performance of rural and urban students in high school and on the entrance examination have been treated in sufficient detail to make necessary at this point only a review of the findings. It was noted (pages 233-34) that the rural students, particularly the rural-non-farm, came from distinctly higher positions in their high-school classes than did the urban students. Nevertheless, it was shown that urban students ranked significantly higher in their performance on the entrance examination (pages 235-37).

It will be seen from Table 21 that the total number of grade points earned in college varies directly with the decile rank in high school. Students from the first (lowest) decile secured an average of 31.6 grade points, with each succeeding decile group earning a larger number. Students from the tenth (highest) decile averaged 170.4 grade points. Rank in each of the six lowest high-school deciles is associated

Table 21. Correlation of Grade Points in College with Decile Rank in High School

<i>High-School Decile</i>	<i>Mean Number of Grade Points†</i>
1st (lowest)	31.6-
2nd	44.1-
3rd	48.9-
4th	62.9-
5th	70.5-
6th	80.3-
7th	92.4
8th	105.3
9th	138.6*
10th (highest)	170.4*
All deciles	102.5

† See footnote to Table 18.

with lack of success in college, whereas rank in the two highest deciles bears a positive association with college success.

For the American Council Psychological Examination distribution, similar relationships are observed (Table 22). The lowest decile aver-

Table 22. Correlation of Grade Points with Psychological Test

<i>Decile in American Council Psychological Examination</i>	<i>Mean Number of Grade Points†</i>
1st (lowest)	47.6-
2nd	70.4-
3rd	70.4-
4th	85.8-
5th	94.8
6th	102.8
7th	105.1
8th	119.7*
9th	128.8*
10th (highest)	167.7*
All deciles	99.0

† See footnote for Table 18.

aged 47.6 grade points, and consistent gains were shown by succeeding deciles, with an average of 167.7 for the tenth decile. Rank in the four lowest deciles was found to be negatively significant in relation to college success, whereas rank in the three highest deciles carried positive significance. It will be recalled that urban students received superior psychological-test scores.

HEIGHT-WEIGHT RATIO AS A FACTOR IN COLLEGE SUCCESS

That good health is related to satisfactory college performance has been investigated and fairly well substantiated. K. R. Driskill, in a Master's thesis at the State College of Washington, found a positive association between physical fitness and college success, as measured by grades and ability to stay in college.³⁶ "On the average all students suffering from physical defects, although no less intelligent, do slightly poorer work."³⁷

In this study only one phase of health was extensively investigated—the relationship of height-weight ratio to college success. The investi-

³⁶ K. R. Driskill, *A Study of the Relation of Physical Fitness and Successful College Work* (Master's Thesis), the State College of Washington, Pullman, Wash., 1931.

³⁷ *Ibid.*, p. 44.

gation was prompted by the findings of a study made by W. P. Pillsbury in 1936. He found that the average grade of pyknic-built (inclined toward obesity) college students was uniformly lower than that of athletic and asthenic-built students, and that their rate of mortality was higher.³⁸ The mean number of grade points earned by the normal group in this study was 102.5; the underweight group, 100.2; and the overweight, only 68.2. The condition of being overweight proved to be one of the most strikingly significant (negative) factors in college success. The overweight person is apparently at a decided disadvantage in college. In addition to the phlegmatism and lack of alertness which frequently characterize the overweight individual, he probably suffers from self-consciousness and, consequently, finds difficulty in adjusting himself to the college environment.

It will be recalled that the rural-farm group was most normal of the three residence groups in terms of the height-weight ratio, and that the urban group had the largest proportion of deviations from the normal.

COMPARATIVE PURPOSEFULNESS, SOCIABILITY, AND INITIATIVE OF RURAL AND URBAN STUDENTS

Purposefulness, or the adherence to definite goals in life, is an impelling force strong enough to spur individuals possessing mediocre ability to superior levels of performance. Sociability may interfere with scholastic achievement but ease other phases of adjustment. Initiative should be a valuable tool in many phases of college adjustment. How do rural and urban youth compare on these points?

The data presented in Table 23, although inadequate in some respects, provide a basis for comparing rural-farm, rural-nonfarm, and urban men as to purposefulness and two other personality traits—sociability, or the ability to get along with others, and initiative. The

Table 23. Comparison of Rural and Urban Men on Three Selected Personality Traits

<i>Personality Trait</i>	<i>All Students</i>	<i>Rural-Farm</i>	<i>Rural-Nonfarm</i>	<i>Urban</i>
Sociability	7.36	7.33	7.59	7.22
Initiative	6.48	6.64	6.41	6.40
Purposefulness	6.61	6.79	6.50	6.54

³⁸ "Body Form and Success in Studies," *Journal of Social Psychology*, VII (1936), 129-39.

information was secured from the high-school principal's evaluation which comprises one section of the application for admission. The principal is asked to rate each student on the three personality traits by the use of rating scales ranging from 1, the lowest rating, to 10, the highest rating. This information was available for 473 of the 722 men. The generally high averages prevailing indicate a tendency for principals to rate their students somewhat high. Care must be exercised in interpreting the data, because they were supplied by a large number of individuals whose evaluations were undoubtedly subject to wide variation.

It will be noted that the urban students ranked lowest in respect to sociability. The differences, however, could probably be explained by the comparative lack of intimacy and close contact between teacher and student in the city high school. The rural-farm and rural-nonfarm groups are comparable, inasmuch as they attend the same high schools. A comparison of these two groups shows that farm students rank appreciably lower than rural-nonfarm students (7.33 and 7.59, respectively). As previously noted, the background of the farm youth is not such as to facilitate adaptation to other persons.

In respect to both initiative and purposefulness, however, rural-farm students were rated distinctly higher than students from the other residence groups. The differences in initiative are not statistically significant, but those observed for purposefulness approach significance.³⁹

That there is a relationship between these subjective evaluations and college success is demonstrated by fairly substantial positive correlations with total grade points. A correlation coefficient of $.39 \pm .039$ was obtained when initiative was related to total grade points earned in college, whereas the relationship between purposefulness and the same index of college success is represented by a coefficient of $.30 \pm .042$. As might be expected, the correlation between sociability and college success was considerably lower, $.19 \pm .044$.

It has been shown in several studies that the ratio of performance to capacity is not so great for individuals with high intelligence as for individuals with low intelligence.⁴⁰ A negative correlation coefficient

³⁹ Variations as large as those existing between the mean for the rural-farm students on the one hand and those for the rural-nonfarm and urban students on the other could have occurred by chance 15 and 13 times, respectively, in 100.

⁴⁰ See P. H. DuBois, "Achievement Ratios of College Students," *Journal of Educational Psychology*, XXX (1939), 699-702.

of .35 has been found between intelligence and time spent in study.⁴¹ Partially as a fault of the college, which rarely strives to bring out the best that is in the superior student, the high-aptitude student very frequently fails to measure up to his potentialities. This may well be a factor in the failure of the urban student group to attain its expected level.

Indications point to a greater purposefulness among students from rural-farm backgrounds. In combination with greater industry and more time spent in study, it may be one of the chief conditioning forces in the satisfactory scholastic adjustment of rural-farm students.

It is not difficult to see how rural-farm students in the college population might be more purposeful than students from other backgrounds. The farm environment favors the development of qualities of patience and persistence.⁴² The relative absence of interfering stimuli makes it easier for the individual in the farm setting to see a particular job through to its completion. Farm youth are less likely to place unduly high value on athletics and social activity. Their early introduction to the work world and early acceptance of responsibility give them greater maturity of attitudes and outlook. The urban youth has probably observed other channels of vertical movement and might feel that he can improve his socio-economic status outside the college sphere. The farm youth, on the other hand, is inclined to look upon college as his one opportunity for effecting advantageous occupational and social adjustment. Moreover, it has been seen that the farm youth who attend college are a select group, composed largely of the abler students from among their high-school classes. Urban youth attend college in greater proportions, frequently not from personal motivation but because it is expected of them under the existing culture pattern.

THE ECONOMIC STATUS OF RURAL AND URBAN STUDENTS AS A FACTOR IN COLLEGE ADJUSTMENT

Aside from its tendency to correlate positively with intelligence, economic status may play an important role in conditioning college achievement. Inadequate finances may force withdrawal from college, or may contribute to scholastic deficiency through worry and need for working to excess. Mintzer and Sargent, at the Central YMCA College

⁴¹ M. A. May, "Predicting Academic Success," *Journal of Educational Psychology*, XIV (1923), 429-40.

⁴² See J. M. Williams, *Our Rural Heritage* (New York: Alfred A. Knopf, 1926), Chapter IV.

in Chicago, revealed small but consistent positive correlations between low economic status and maladjustment in college.⁴³

It was found (pp. 228-29) that farm students at the State College of Washington compare rather favorably in economic status with students from other residence and occupational groups; at least they do not appear to be particularly disadvantaged either from the standpoint of family income or from having to work their way through college.

In any case, the adverse effects of part-time employment on scholastic achievement have probably been overemphasized. Recent studies have shown that up to a certain point, outside employment is associated with higher scholarship, and that the student who works for all his college expenses generally does superior work to the student who does not work at all. Harold B. Baker found that the highest average grade was secured by the students who carry thirteen semester hours of class work and 27 hours of outside employment per week.⁴⁴ The effects of outside work are dependent, however, upon the physical and mental make-up and the capacity of the individual student. The superior student who does not need to devote so many hours to study and who can plan his use of time wisely may be able to carry a heavy burden of outside work and still maintain a high level of scholastic achievement, whereas the low-aptitude student may find that even a very small amount of outside work will interfere with his scholastic success.

COMPARATIVE DIFFICULTIES OF ADJUSTMENT TO THE COLLEGE ENVIRONMENT

A wide variety of personal-social adjustments are required in the transition to the college environment, especially by groups whose home backgrounds are sharply divergent from the college situation. "It is doubtful if any . . . period . . . is characterized by greater changes in the individual's habits and manner of living, or fraught with more serious personal and social consequences than is the transition in our civilization from school to college . . . Breaking home ties, making new friends, learning new ways to study and to be taught, building new ideals and testing old ones, forming new living habits in a strange environment—all these involve types of adjustment which would be faced

⁴³ S. Mintzer and S. S. Sargent, "Relationship between Family Economic Status and Some Personality Traits of College Students," *School and Society*, XLIX (1939), 322-24.

⁴⁴ "The Working Student and His Grades," *Journal of Educational Research*, XXXV (1941), 32-33.

with apprehension by competent experienced adults. And yet parents in America have come to think of 'going away to college' as a more or less routine matter not to be taken too seriously."⁴⁵

The initial adjustments are undoubtedly more difficult for the farm youth than for the city-reared youth. Yet it has been noted that the rural student adjusts himself to the scholastic demands of the college environment at least equally as well as the urban student. The rural student apparently meets with greater success in his scholastic adaptation than he does in effecting satisfactory social adjustments. Provided the social inadequacy is not so marked as to upset his emotional balance, weakness in this realm may spur the farm student to greater scholastic efforts as a compensatory device.

As the college period progresses, the rural student apparently becomes accommodated to his new environment. Perhaps the nature of the institution (a land-grant college) and its location in the small city of Pullman help to lessen the adjustment problems of rural students at the State College of Washington. The small-town atmosphere and the relative freedom from highly urbanized influences make the transition less difficult than it might be in a large city. Wherever situated, however, the college environment exerts a powerful levelling influence during the adaptable years of youth, tending to reduce without completely erasing the differences stemming from variant cultural backgrounds. The "culture shock" usually wears off rather early, as the rural student becomes accustomed to large classes, lectures, and the impersonal ("secondary group") atmosphere. If he has a definite goal in mind, the adjustment is made somewhat more easily, as he has something bigger than his occasional frustrations to occupy his thoughts. The length of college attendance of the rural-farm student, as well as his steady improvement in scholarship, testify to his ability to become adjusted to the college environment.

CONCLUSION

The following factors seem to be associated with the relatively high level of college achievement of rural students:

(1) Favorable age distribution. Both the rural-farm and rural-nonfarm groups had significantly larger proportions of students in those age brackets which were found positively associated with college

⁴⁵ L. B. Hale, *From High School to College* (New Haven: Yale University Press, 1939), Foreword.

success (16 to 18 years) than did the urban group, and significantly smaller proportions in the brackets negatively associated with success (19 to 22). Apparently entrance to college at an early age usually indicates a degree of mental precocity.

(2) Despite the fact that they were on the average slightly younger than urban students, there were more rural-farm students also who reported a time interval between high school and college. Delayed entrance frequently gives the student a matured and purposeful outlook which is reflected in superior scholastic performance.

(3) Deficiencies in the educational heritage of rural students (as revealed by the education of parents) apparently involved no handicap, inasmuch as no consistent association was found between college success and the amount of formal education of parents.

(4) Students from both rural groups came from higher deciles in their high-school classes than did urban students, evidently being more select groups in terms of the total population from which each came. To be sure, farm students had a low rating in the psychological tests, but this was found to be less significantly correlated with college achievement than was high-school performance.

(5) A significantly large proportion of rural-farm students were in the normal weight range, which has been found important in successful college adjustment.

(6) Students from farming areas manifest the ability to pursue a goal with more unified purpose than do rural-nonfarm and urban students, and show higher ratings for initiative.

(7) Students from the farm participate in athletics and/or in fraternity or sorority life to a less extent than do those from urban centers, and hence presumably have more time to devote to studies.

(8) Urban students, though failing to attain the level of scholastic success one has reason to expect of them on the basis of their psychological-test performance, excel rural students in leadership, social participation, athletic performance, and sorority and fraternity membership.

V. Concluding Summary

This study of the composition and characteristics, abilities, and achievements of men and women and of rural-farm, rural-nonfarm, and urban groups in the entering class of 1936 at the State College of Washington makes possible certain generalizations concerning the selec-

tivity of the State College student population and concerning factors bearing on success and failure of various socio-economic groups in the college situation.

DIFFERENCES BETWEEN THE SEXES

The college campus draws men in larger proportions; the ratio in the entering class was 193 men per 100 women. The sex ratio of the survivors at graduation is even more unbalanced, with 205 men to 100 women; accordingly, a higher proportion of women than men fail to pursue a college course until they receive diplomas.

The campus draws a much more able group of women than of men. On the average, only the more capable girls go to college—they are mentally a more precocious group as measured by age of entering college, more of them reach the campus at an earlier than average college age, and most of them come from the highest decile of their high-school class; they have a greater mental capacity as measured by the college psychological examination; they come from better educated families and families of better occupational status; they come from families better able to finance them through college; they less often work their way either while in school or by staying out of school between high school and college.

Men, on the other hand, more often than women come from as low as the middle or even below-middle deciles of their high-school classes; they average lower scores on the college psychological test given at the time of enrollment; they more often come from disadvantaged economic and occupational groups, i.e. from the laboring classes; they more often work between high school and college, and more often work their way while in college.

The mortality rate for men is approximately two-thirds; i.e. about 67 per cent fail to graduate. Among women, the casualty rate is slightly higher. The mortality rate for men is highest during the first semester, for the women during the second semester. The casualties among the men are primarily those who lack ability to do college work. Most of them are from the lower deciles of their high-school classes. Girls of the higher levels of ability more often drop out than do boys. Apparently many come to take special vocational courses, especially in secretarial training, that will lead to a job after a year or two of training; others terminate their college career by early marriage, or for reasons other than a lack of ability.

The reasons for the above-mentioned differences between the sexes are not fully apparent. Differences in values and life goals deep seated in our culture probably operate at many points. Slightly more girls than boys graduate from high schools of the state, but after high-school commencement the girl is more likely than the boy to return to high school for a post-graduate year, to go to a commercial training school of some sort, or to enter nurse's training.⁴⁶ Of all high-school graduates more girls than boys continue their schooling, even though about 30 per cent of boys and only about 25 per cent of girls go on to some institution of higher learning.⁴⁷ It is probable that women, because most of them expect eventually to marry, try more often to prepare themselves for the labor market as soon as possible by taking the short cut of a special vocational course. It is also possible that the college curriculum is still not so well adapted to the needs and interests of girls as of boys. It may be also that parents, or many girls themselves, do not as often feel that college education is as necessary for the girl as for the boy.

The greater success of the girls in the college situation may not be explained fully by the selection of a superior group of girls. Many alert college women feel that they are competing in a man's world to which they have only during a short period of history⁴⁸ been granted admission. It is likely that they take their privileges and responsibilities in college more seriously than the average man of equal ability.

OCCUPATIONAL DIFFERENCES

The State College student population comes from all the broad occupational groups, the proportions being as indicated by the following percentages: professional class, 10.5; proprietary class, 22.3; clerical, 9.1; skilled workers, 13.6; semi-skilled and unskilled workers, 13.7; farmers, 30.5. This compares roughly with the following ratios in the total male population in the state in 1940: professional, 5.4; proprietary, 10.9; clerical, 12.0; skilled workers, 17.7; semi-skilled and unskilled workers, 44.5; and farmers, 9.5 per cent.

Marked differences were observed in the selection of the college population from the different occupational groups. Those from the professional group come from the high levels of ability, as do those

⁴⁶ Landis, *Six Months after Commencement*, pp. 24-28.

⁴⁷ *Ibid.*, pp. 12-18.

⁴⁸ Coeducation in the United States dates back only to 1833, the date when Oberlin College first opened its doors to women.

from the farming and laboring groups. An unusually large proportion of those from the proprietary class are of a lower level of ability as measured by the American Council Psychological Examination, although they ranked higher in their high-school graduating classes than all other groups except the professional.

The high level of ability of the professional class probably does not represent any marked selection, inasmuch as most children from this occupational class go to college. The class is itself selected on the basis of intellectual ability and would be expected to produce offspring that would on the whole perform well in college. The ability of the farming and laboring classes in the college population is clearly the product of selection from the top deciles of the high-school classes from which they come. It is apparent, however, that the proprietary classes have come to consider college "the thing" for their children and send them without much consideration of the youth's ability to perform successfully in the college situation.

In college the proprietary class and the semi-skilled and unskilled labor class have the highest casualty rates; approximately three-fourths fail to graduate. The professional group most often transfers to other institutions at some time during the college course. Approximately one-third of those from the clerical, the skilled, and the farmer groups obtained diplomas of graduation.

The students from the laboring classes (semi-skilled and unskilled) most often are delayed in entering college and most often finance themselves, yet, because of the rigid selection, are highly successful in scholarship.

RURAL-FARM, RURAL-NONFARM, AND URBAN DIFFERENCES

The rural-farm, rural-nonfarm, and urban elements contribute about a normal ratio to the State College student population, but marked differences in ability and performance of these groups were observed. Both rural groups are more highly selected in terms of having attained a high rank in their high-school graduating classes, but the urban students in spite of an average lower rank in their high-school classes do much better on the college psychological test than the other groups, the farm group ranking lowest.

In terms of actual college performance no significant differences are found in the total grade-point averages of rural and urban groups. The rural-farm students show a consistent tendency to rank slightly

lower than the rural-nonfarm and urban students during the first college semester. But the rural-farm students show the greatest improvement in scholastic performance, as indicated by differences between the first-semester and total college grade-point average. When persistence is introduced as a measure of college success, the rural-farm students achieve significantly greater success than do urban students. Proportionately fewer rural-farm students drop out during the first college year, and a larger proportion persist to graduation. Of both rural-farm and rural-nonfarm groups, 38.6 per cent persist to graduation; of the urban students only 33.5 per cent obtain degrees.

The *effective intelligence* of rural students, as measured by their ability to make satisfactory scholastic adjustments, is apparently as high as that of urban students. This would seem to be a more valid basis for drawing rural-urban comparisons than performance on a single psychological test.

In the college situation the farm youth seems to have the advantage of somewhat earlier maturity. He less often participates in inter-collegiate athletics, is less often a member of a social fraternity or sorority, and has a lower social-participation score. The urban student is more successful in terms of the non-curricular activities of the college campus.

It seems likely that differences in the interests and performance of the rural and urban groups reflect in large part the values that predominate in rural and urban areas. Urban experience, with its multiple contacts, leads one to appreciate the values of leadership and to know the importance of learning to manipulate other persons. The more isolated farm youth sticks more strictly to the business of pursuing a classroom education.

Factors in the conditioning of youth in rural and urban areas and in the various socio-occupational groups complicate the problem of predicting college performance either on the basis of high-school performance or psychological-test score. The different values which motivate the sexes also seem to affect college performance. Until it is possible to weigh and measure these more general influences in the experience of youth, it will not be possible to predict with a high degree of accuracy what to expect of a youth in the college situation itself.

EVE'S DREAM AND THE TEMPTATION IN *PARADISE LOST*

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Milton inherited the dream as an epic device. From Homer's Zeus sending a baneful dream to Agamemnon, bidding him to call together the flowing-haired Achaians,¹ and grey-eyed Athene standing above the head of Nausicaa, calling upon her to "arise and go-awashing with the breaking of the day,"² to Archimago's sprite with "false shewes" abusing the fantasy of Spenser's Elfin Knight,³ the dream was employed to enable supernatural powers, both good and evil, to influence human behavior. The dream, often personified, stood at the head of the sleeper; the victim accepted the images imprinted in his fancy as real and the commands as binding. He awoke, and the desired action usually followed.

At first glance, Eve's dream in *Paradise Lost*—like the invocations, the numbering of the hosts, and the extended metaphors—seems to be only another example of Milton's skill in the use of epic machinery. Satan is discovered

Squat like a Toad, close to the ear of Eve,
Assaying by his Devilish art to reach
The Organs of her Fancy . . .⁴

He succeeds, as Eve's account to Adam⁵ makes clear—an account which at some points anticipates the temptation described in Book IX. Adam then seeks to comfort her and to allay his own fears with a long explanation of the psychology of dreaming, usually accepted by the modern reader as applicable to her experience. There has been no attempt to understand the relation either of the dream or of Adam's explanation to the subsequent action. Addison's comment has gone unchallenged:

Though the catastrophe of the poem is finely presaged on this occasion, the particulars of it are so artfully shadowed that they do not anticipate the story which follows in the Ninth Book. I shall only add that though the vision itself

¹ *Iliad*, II, 1 ff.

² *Odyssey*, VI, 21 ff.

³ *F.Q.*, I, 1, 46, and I, 2, 3 ff.

⁴ *Paradise Lost*, IV, 800-2.

⁵ *P. L.*, V, 28-93.

is founded upon truth, the circumstances of it are full of that wildness and inconsistency which are natural to a dream.⁶

Such criticism misses the point: the particulars not only "anticipate" rather than "shadow" the story in Book IX, but they are essentially a part of the story. In addition, the vision does not have the wildness and inconsistency which Addison regarded as natural to a dream. As the work of an evil angel it had a characteristic orderliness which enabled it to be a vital phase of the temptation. This Adam failed to see, and his long discourse on dreams, comforting but irrelevant, became in turn a part of the tragedy.

I

To explain Eve's responsibility in having the dream and Adam's responsibility in misinterpreting it, we must turn, first, to seventeenth century psychology; then, specifically to the psychology of temptation; and, in conjunction with this, to the account of supernatural dreams presented by Milton's contemporaries.

The psychology pertinent to the study of *Paradise Lost* involves a trilogy of terms: the Will, Reason or Understanding, and Sensitive Appetite.⁷ Reason, Man's prerogative, is described as in perpetual warfare with a "lower" nature, including the senses, the fancy, and the passions, in which the concupiscible and irascible appetites constitute respectively the impulses to action and restraint. Man is good when Will takes Reason's part against the dictates of Appetite as determined by the fancy and the affections working with materials supplied by the senses. Sin, on the other hand, is the ascendancy of the sensual appetite: a false good allures the senses, the fancy retains the object as capable of inflaming the passions, the concupiscible appetite inclines to this illusion of an apparent good, and will consent to the dictates of the sensual nature. This is the psychology of conduct reflected in Milton's characterization of the Fall and its immediate effects:

Understanding rul'd not, and the Will
Heard not her lore, both in subjection now

⁶ Addison, *Criticisms on Paradise Lost*, ed. by A. S. Cook (Boston, 1892), pp. 82-83. The most extended recent discussion is to be found in Grant McColley, *Paradise Lost* (Chicago, 1940), pp. 161-64.

⁷ For a convenient contemporary account, see Matthew Hales, *The Primitive Origination of Mankind* (London, 1677), pp. 44 ff.

The emphasis of some historians of psychology upon the innovations of Descartes, Gassendi, Hobbes, Malebranche, and Spinoza has tended to obscure this popular account derived from Renaissance faculty psychology.

To sensual Appetite, who from beneath
 Usurping over sovran Reason claim'd
 Superior sway.⁸

This is the simple statement of the Christian warfare of the spirit and the flesh in terms of Reason and appetite.⁹ Analyzed by Protestant divines, this involved an extended description of the complicity of the senses, the fancy (or phantasy),¹⁰ and the affections. John Flavell provides a succinct statement of this psychology of temptation:

Divines observe this to be the method in which temptations are ripened and brought to their full strength: there is (1) the irritation of the object, or the power it hath to work upon and provoke our corrupt nature, which is either done by the real presence, or else by speculation, when the object (though absent) is held out by the phantasy before the soul. (2) Then follows the motion of the sensitive appetite which is stirred and provoked by the phantasy, representing it as a sensual good, as having profit and pleasure in it. (3) Then there is a consultation in the mind about it, deliberating about the likeliest means of accomplishing it. (4) Next follows the election or choice of the will. (5) And lastly, the desire of full engagement of the will to it.¹¹

Here one observes the importance of phantasy in inclining the will to the concupiscence of the lower nature: it is the indispensable intermediary in presenting outward objects as temptations, and thus making possible, in the language of Anthony Farindon,

that fight and contention between the inferior part of the soul and the superior, between the sensual appetite and the reason, not to be decided or determined but by the will The senses then are . . . *fenestra animae*, the windows of the soul, through which tentations enter to flatter and wooe the fancie and affections, to joyn with the principal faculties of the soul, to beget that sin which begetteth death.¹²

Whether the stimulus comes to the senses, "the windows of the soul," or directly to the inner senses, the appeal is primarily to the fancy:

⁸ *P. L.*, IX, 1127-1131.

⁹ Protestant theology rejected the Catholic account of a warfare of soul and body, based upon a literal interpretation of the Pauline analysis of sin. Protestant divines identified "body" with the sensory nature, the "lower" soul, and thus their account of the warfare of soul and body was a description of the conflict of the rational and appetitive natures. See John Downname, *Christian Warfare* (London, 1634), p. 1033, and Milton, *Christian Doctrine*, I, vii, in *Prose Works*, ed. St. John (5 vols., London, 1872), IV, 188-89.

¹⁰ The original Greek term, transliterated into Latin *phantasia*, became variously phantasy, fantasy, phansy, and fancy. "Fancy" was preferred in Milton's day.

¹¹ *A Saint Indeed* (London, [1667] 1670), p. 35.

¹² *Sermons* (London, 1657), p. 340.

They [the senses] are not only made occasions of sins, but are drest up, and trimmed by the father of lies (*who takes up a chamber in our Fancy*) in that shape and form, in those fair appearances, which may deceive us; there is a kind of Rhetorick and eloquence in them, but not that of the Orators of Greece, which was solid and rational, but that of the later Sophisters, which consisted in elegancies and figures, and Rhetorical colours . . . flattery and popular eloquence.¹³

Only as Satan takes up a chamber in the fancy does appetite incline and will consent to an imagined good:

. . . when the temptation hath gained an entrance at the eye, or eare, it presseth forward to the more retired and more active faculties . . . for from the senses it is transmitted to the Fancy, which hath a Creating faculty, to make what she pleaseth, of what she list, to put new forms and shapes upon objects; to make gods of clay, to make that delightful which in itself is grievous, that desirable which is loathsome; that fair and beautiful, which is full of horror.¹⁴

It is the "creating faculty" of the fancy which is able to transform the materials derived from the senses into "new forms and shapes." This is, of course, the psychology of temptation in Book IX, wherein Satan, taking up a chamber in Eve's imagination, is studied as he turns the loathsome into the desirable, and the horrible into the fair and beautiful. It is also this same "creating faculty" which is at work in the dream described in Book V.

In connecting the psychology of temptation with the psychology of dreams in Milton's day, we must first observe that the Renaissance had bequeathed a controversy concerning the power of demons to influence human conduct, specifically involving the nature of the angelic dream.¹⁵ The Protestant view current in Milton's day is conveniently set forth

¹³ *Ibid.*, pp. 340-41. The italics are mine.

¹⁴ *Ibid.* For this view of the importance of phantasy in temptation, see also the well-known Protestant work of Peter Martyr Vermigli, *Commonplaces*, tr. by Antonie Marten (London, 1583), p. 89: "Wherefore when these images are called back from the memory unto the phantasie, or unto the senses, they bear with them the very same seals, and do so stronglie strike and move affection that these things seem even now to be sensibly perceived and to be present. For so great may the power of the phantasie be . . . that those things which be afar off a man may think that he doth most certainly see and touch them . . . wherefore that which is done by natural means, the same may be done by the devil. For he can call backe the images of things from the memorie unto the phantasie or unto the sense, and so deceive the eies of men."

¹⁵ H. J. Todd in his annotations of *P. L.*, V, 95 ff., first called attention to Wier, *De Lamis*, 1582, Chap. VIII. McColley, *op. cit.*, has added Psellus, *De Operatione Daemonis*, Chap. XII, Heywood, Scot, and Du Bartas. Marsiglio Ficino's collection of Neoplatonic works (1497) in which the Renaissance reader found Psellus, contains also Synesius Platonicus *De Somniis* and Porphyry, *De divinis atque daemonibus*. See also N. Hemming, *Admonitio de Superstitionibus*, Frankfurt, 1575, pp. H2 ff.

in Henry Lawrence's *Of Our Communion and Warre with Angels*,¹⁶ and in Moses Amyraut's little work, *Discours sur les songes divins*.¹⁷ Both Lawrence and Amyraut insist that a dream is primarily an appeal to the fancy. Dreams of all kinds, writes Amyraut, natural, angelic, and divine, work upon the internal senses, common sense, phantasy, and memory; and, after a process of logical elimination, he concludes that they work upon phantasy only.¹⁸ Lawrence likewise speaks of dreams as directed to "the internall senses, to wit, the fancy and imagination."¹⁹ For both Amyraut and Lawrence, angels, both good and bad, influence conduct through dreams by working directly upon the fancy. Lawrence is explicit:

Men can speak to our understandings by the mediation of our external senses. Angels which are spirits goe a neer [nearer] way to worke, and speake to the internall, first of all, making such compositions there, as the understanding presently takes note of, and reades what is written.²⁰

Thus an angel, acquainted with our "inward motions," can work directly upon the "internal sense" through an intuitive knowledge of the sensory materials accessible to the fancy:

What is it that they cannot communicate to you at their pleasure, speaking to the inward senses, and causing the understanding to reade of, what they there compound, and no time is free, sleeping or waking. They can come to you, when the senses are bound up, as in dreames. They need not fetch the compasses of our eares, and eyes. That we are faine to doe, therefore our communion is exceeding great with the Angells, both good and bad.²¹

An angelic dream, then, may become important psychological evidence: since the angels work directly upon the fancy, "what they there compound" is based upon an intuitive knowledge of materials which they have found there.

¹⁶ Amsterdam, 1646. This is the Henry Lawrence, the father, of Milton's sonnet, "Of virtuous father virtuous son."

¹⁷ Saumur, 1656. Amyraut is the Amyraldus famous for the doctrine known as Amyraldism, certainly known to Milton. His little book was translated into English in 1671 by James Lowde, and dedicated to the Earl of Bridgewater. The extensive quotations from Lawrence and Amyraut do not imply "sources" in the ordinary sense; they merely represent an aspect of Milton's intellectual milieu.

¹⁸ *Op. cit.*, p. 5.

¹⁹ *Op. cit.*, p. 35. He implies no differentiation of the two terms. Unlike Amyraut, he has dispensed with the division of internal senses into common sense, fancy, and memory.

²⁰ *Ibid.*, p. 38.

²¹ *Ibid.*, p. 39.

II

Some such account of the operation of an angel immediately upon the fancy in dreams is in Milton's mind in his explicit statement of Satan's intention:

him they there found
Squat like a Toad, close to the ear of Eve;
Assaying by his Devilish art to reach
The Organs of her Fancy, and with them forge
Illusions as he list, Phantasms and Dreams.²²

The language indicates familiarity with the contemporary psychology of dreams: by "his Devilish art," i.e. a power peculiar to a supernatural agent, he is attempting to work directly upon "the organs of her Fancy." Milton is precise: Satan is not assaying to plant a dream in her fancy; but through the organs of her fancy to forge (i.e., to fuse out of materials already there) illusions, phantasms, and dreams—not dreams alone. We shall see that the poet deliberately used these three terms.

Milton immediately suggests a possible alternative:

Or if, inspiring venom, he might taint
Th' animal Spirits that from pure blood arise
Like gentle breaths from Rivers pure, thence raise
At least distemper'd, discontented thoughts,
Vain hopes, vain aims, inordinate desires
Blown up with high conceits ingend'ring pride.²³

The poet was familiar with two accounts of Satanic assault upon a sleeping victim: an attack upon the fancy resulting in illusions, phantasms, and dreams, and a physiological approach through the animal spirits and humors. William Chilcot, writing slightly later, suggests these alternatives:

That Satan can throw wicked thoughts into our Minds is (I suppose) a matter not questioned; but whether he does this by working on the humours of the Body, or by stirring up the animal Spirits; or by an immediate applying his Suggestions to the soul is not easy to be determined.²⁴

The "immediate applying" of suggestions to the soul is, of course, the direct attack through the fancy. Although Chilcot is not referring specifically to dreams, he has in mind Milton's distinction between the mental and the physiological approach. Lawrence may, however, refer to the exact situation with which Milton was dealing:

²² *P. L.*, IV, 799-803.

²³ *P. L.*, IV, 804-09.

²⁴ *A Practical Treatise concerning Evil Thoughts* (London, 1698), p. 118.

He may speak to us from without as the Divell did to Evah, and doth to many in apparitions, or by applying himself to our fancies by an inward commotion of our humours and stirring of the phantasmes.²⁵

The meaning depends upon whether one construes "in apparitions" as related to "from without." If one construes thus, Lawrence may be a direct source of Milton's distinction. Since the poet seemingly makes no use of the alternative in his subsequent account of the effect of this experience upon Eve, we conclude that this is evidence only of his desire to be scientifically accurate in recognizing another explanation. The passage calls upon the reader as he turns to Eve's account to anticipate a poet's painstaking use of other contemporary materials.

We observe at the outset that Eve is made to exclaim that this was no natural dream:

Such night till this I never pass'd, have dream'd,
If dream'd, not as I oft am wont, of thee,
Works of day past, or morrow's next design,
But of offence and trouble, which my mind
Knew never till this irksome night.²⁶

If, as in a tragedy, our hopes are raised that the imposture is soon to be detected, this is an excellent prelude: she tells Adam that this experience has been so extraordinary that she doubts whether it was a dream, i.e., a natural dream. She has often dreamed of Adam, the work of the last day, and plans for the next. She can find no such sensory materials in this dream. Then, with an acuteness to be attributed to the poet rather than the naive heroine, she adds that the stuff of this dream is "offence and trouble," matters totally outside of the kind of experience upon which her natural dreams must be based. It is good psychology—more pertinent psychology than that which Adam was soon to expound.

The details which follow reveal a careful use of materials drawn from contemporary literature of dreams. A voice (this is the illusion) which Eve mistakes for Adam's, calls her to leave her sleep, that she may listen to the nightingale, observe the beauty of Nature at night, and, in turn, be observed by Moon and Stars, anxious to contemplate her beauty:

Why sleep'st Thou Eve? now is the pleasant time,
The cool, the silent, save where silence yields

²⁵ Lawrence, *op. cit.*, p. 79.

²⁶ *P. L.*, V, 31-35.

To the night-warbling Bird, that now awake
 Tunes sweetest his love-labour'd song; now reigns
 Full orb'd the Moon, and with more pleasing light
 Shadowy sets off the face of things; in vain,
 If none regard; Heav'n wakes with all his eyes,
 Whom to behold but thee, Nature's desire,
 In whose sight all things joy, with ravishment
 Attracted by thy beauty still to gaze.²⁷

To understand this portion of the dream, we must again turn to Lawrence for additional evidence of the belief that angelic dreams, like natural dreams, can work only with thoughts and images already in the mind of the dreamer:

Now wee being awake can by an act of our own wills stirre up the memory of things and provoke our fancies to the apprehension of things past. An Angell therefore can doe much more . . . Doe we not see impressions in our fancy of things wee thought wee had altogether forgotten, which certainly is done by the Angells good and bad, whiche can make compositions of what they finde there, *they cannot put in new ones, but worke upon what they finde.*²⁸

Angels good and bad, one observes, "work upon what they finde." What suitable materials in Eve's fancy did Satan find out of which to forge a dream? For answer one turns to a portion of the poem written apparently with the dream in mind, the account of the conversation of Adam and Eve during the previous evening. In a speech of Eve, one finds the sensory images upon which this portion of the dream depends, including "The silent Night," "her solemn Bird," "this fair Moon," and "the Gems of Heav'n, her starry train," details already stressed in the preceding setting.²⁹ In the reiteration of these details there is a curious change: "This fair moon" becomes "walk by Moon, or glittering Starlight,"³⁰ the obvious source of the call to a nocturnal stroll. It is noteworthy that, as Eve mentions the times of day enhanced by companionship, it is only Night which suggests a walk. This is immediately followed by her query:

But wherefore all night long shine these, for whom
 This glorious sight, when sleep hath shut all eyes?³¹

The sources of the dream in these sensory impressions are apparent, and, save for this last query, they seem innocent enough. Can one, then,

²⁷ *P. L.*, V, 38-47.

²⁸ *Op. cit.*, p. 35. The italics are mine.

²⁹ *P. L.*, IV, 647-649; cf. IV, 598-609.

³⁰ *P. L.*, IV, 655-56.

³¹ *P. L.*, IV, 657-658.

infer that their presence in her mind suggests her responsibility for a dream induced by an evil angel beginning with the invitation, apparently in the voice of Adam, to walk by night?

The answer lies in observing carefully the occasion for this appreciation of nature by moonlight. As evening closed, Adam had suggested that night is made for rest: man alone "hath his daily work of body or mind appointed," and therefore

God hath set
Labour and rest, as day and night to men
Successive.²²

This Eve regards as a command, and to it she quickly professes implicit obedience:

What thou bidd'st
Unargu'd I obey; so God ordains,
God is Thy Law, Thou mine.²³

In the light of the importance in the poem of the theme of obedience to God, it is noteworthy that Eve here proclaims a questionable basis for obedience: Adam obeys God, and she obeys Adam. Immediately thereafter, however, she introduces a quite irrelevant theme, "with thee conversing I forget all time," a rhapsody on the various times of the day as enhanced by companionship and only incidentally a hymn to the joys of companionship, culminating in an appreciation of the beauties of the Night! A long speech begins with a promise to obey Adam when he suggests that bed-time comes early for those who work and ends with a questioning of the economy of nature in having provided a full moon and glittering starlight, "In vain, if none regard." In reply, Adam offers an explanation which includes the notion that angels at least are awake to celebrate the beauties of the night. Eve, we shall see, went to sleep, thinking, not about the need for rest, but about one of those angels and about the delightfulness of a walk when the moon is full.

This same dialogue of the previous day also stressed another theme suitable for angelic dream-work, Eve's consciousness of her own beauty. In a passage reminiscent of Ovid's story of Narcissus, Eve not only describes her pleasure in first contemplating her image in the lake, but comments upon her first impression of Adam, "fair indeed and tall,"

²² *P. L.*, IV, 612-14.

²³ *P. L.*, IV, 635-37.

yet methought less fair,
Less winning soft, less amiably mild,
Than that smooth wat'ry image.³⁴

Her first impulse, she told him, was to turn away, obviously because the first sight of the groom was disappointing. With an angel's knowledge of her thoughts, Satan is able to compose out of this a dream of her beauty as something so transcendent that only Heav'n "with all his eyes" can adequately appreciate it.

There is additional evidence in the dream of Eve's preoccupation with the theme of beauty. Failing to find Adam, she went straight to the tree of interdicted knowledge.

Fair it seem'd,
Much fairer to my Fancy than by day.³⁵

For Adam, in the talk of the previous day, it was a tree distinguished from the others only as prohibited. For Eve, it was evidently beautiful. She dreamed that it was "much fairer to [her] fancy than by day," a statement which implies that it was already preeminently "fair" in her waking experience. For Adam, before the sin, it is "sacred fruit, sacred to abstinence." For Eve in the actual temptation it continued to be "fair fruit,"³⁶ even as she repeated the interdiction, and this susceptibility to the appeal to beauty is stressed throughout the temptation. The beauty of the night, the beauty of Eve, the beauty of the fruit—this emphasis in the first phase of the dream reveals Satan accentuating a mental state which was conducive to the actual temptation.

This brings us to the main portion of the dream with a definite feature taken from the literature of the supernatural dream, the phantasm of an angel of light. According to Amyraut, Satan may transform himself for the purpose of suggesting an evil action as coming from a good angel:

The dreams caus'd by evil Angels did always, or at least for the most part, induce to some evil actions, which the good ones never do, . . . That which might render the discerning betwixt these two more doubtful or more difficult, is, that upon this, as upon other occasions, these Angels of darkness might transform themselves into Angels of light and endeavour to impose upon the credulity of the faithful, by causing them to have such dreams which should not seem to contain any thing of that vice we before mentioned [idolatry and pagan superstition]

³⁴ *P. L.*, IV, 478-80.

³⁵ *P. L.*, V, 52-53.

³⁶ *P. L.*, IX, 659-63; cf. "best of fruits," 745; "fruit divine, fair to the eye," 776-7.

and which should tend to actions indifferent in themselves, or such as perhaps might have the appearance of good, but yet such as they might make use of for some evil design."⁸⁷

Eve is hardly to be blamed for not detecting the phantasm. Satan is subtle in rendering "the discerning betwixt these two more doubtful or more difficult." When he apparently plucked and tasted, the description of a pretended effect had "the appearance of good." The "fruit divine," Eve is told, is "able to make Gods of Men." "Fair Angelic Eve" is called upon to partake, not as an act of disobedience, but as a means to greater happiness:

Taste this, and be henceforth among the Gods,
Thyself a Goddess, not to Earth confin'd,
But sometimes in the Air . . .

and see

What life the Gods live there, and such live thou.⁸⁸

At this point the dream definitely follows the pattern described by Amyraut:

The Images that good Angels did imprint upon the phansy, did never contain any thing of Idolatry or Pagan superstition, whereas those which proceeded from evil ones, were commonly full of it: for in these there was always either some representation of false gods, or something which concerned their worship.⁸⁹

The phantasm addresses Eve as a goddess, calls upon her to partake of the fruit as capable of making gods of men, and to be herself a goddess, sharing the life of the Gods. After this appeal she "could not but taste." Immediately she flew with him up to the clouds to behold the Earth beneath "outstretched immense."

In studying Milton's intention here, we may observe that, when the angel plucked and tasted, Eve was chilled by damp horror at both the words and act. This, in the language of the seventeenth century, is the reaction of irascible appetite, or moral aversion to a forbidden object. Eve is recording the fact that at this point she is not susceptible to the temptation. The act even of an angel in eating forbidden fruit induced only revulsion. After a speech of a dozen lines, however, a moral irascibility is suddenly changed to concupiscence: she "could not but taste." Now it is true that the angel told her that it was sweet, and, moreover, it had a "pleasant savoury smell"; but this simple appeal

⁸⁷ Amyraut, *op. cit.*, pp. 71-72.

⁸⁸ *P. L.*, V, 77-81.

⁸⁹ Amyraut, *op. cit.*, pp. 70-71.

to sensual appetite cannot in itself account for the psychological change from irascibility to concupiscence. One may infer that the appeal in the remaining lines of the speech constitutes the reason for the success of the attack: the appeal to a "fair angelic Eve" to become a goddess and ascend to heaven to share the life of the Gods is altogether congenial. Observe how the pattern of the dream is becoming apparent. At the outset Satan had made skillful use of Eve's impulse to observe Heaven at night. Now she can, if she eats, go flying up with him to Heaven. Heaven was awake "with all his eyes" for the express purpose of gazing upon her beauty, and now at the end of the dream "fair angelic Eve" can "be henceforth among the Gods." Eve had not fully revealed her thoughts when, in her account to Adam of that first meeting, she had concluded,

and from that time see
How beauty is excell'd by manly grace
And wisdom, which alone is truly fair.⁴⁰

It was graceful acquiescence in which she continued to insist upon her beauty. When to "manly grace" she added wisdom as a quality in which Adam excelled, she introduced a topic not involved in the context, a higher aspect of beauty, which gave to Adam his superiority. At the end of the dream, however, fruit divine is proffered to a fair angelic Eve as a means of achieving miraculously a wisdom and a "high exaltation" beyond that enjoyed by Adam. The dream thus achieves a symmetry out of materials already in the fancy; a walk by moonlight, which has a source in Eve's questioning of Adam's *dictum* that night is made for rest, ends, after the partaking of the fruit of the "fair plant," in an angelic flight in which she is able to achieve that wisdom "which alone is truly fair." In modern terms we would call it dream-compensation. In terms intelligible in Milton's day, it is a focusing in terms of an angelic dream of a frame of mind primarily aesthetic rather than moral, which enables the reader to understand why Eve so quickly succumbed to

This Fruit Divine,
Fair to the eye, inviting to the taste,
Of virtue to make wise.⁴¹

⁴⁰ P. L., IV, 489-491.

⁴¹ P. L., IX, 776-78.

III

We come now to the question of Adam's responsibility when, after Eve's confession, he seeks to interpret the dream. We must keep in mind the importance of the supernatural dream in seventeenth century thought. It had an orderliness not characteristic of the natural dream, which was only a chaotic joining of sensory images.⁴² As specifically evil it counselled idolatry and superstition, and it prompted evil action. It also had the characteristic feature of the angel of light. If more were needed to denote its supernatural origin, it is the ending: after flying to the clouds, Eve suddenly sinks down—to fall asleep, and, hours later, to be able to recall vividly every detail. Natural dreams are not like that: "if in the morning we remember our natural dreams, yet we disregard them and count them but meer trifles."⁴³

According to Amyraut the Satanic origin of Eve's dream should have been easily detected;

But as far as what concerns his [Satan's] actions and the means he makes use of, whereby to deceive one, whether by dreams or by voice, or any other illusion, neither is his own malice able, nor will the Divine Providence suffer him to resemble the actions of good angels, but there will be some mark by which to discern them.⁴⁴

Does Milton wish the reader to infer Adam's responsibility for his failure to discern the characteristic marks?

At the outset he calls it an "uncouth dream, of evil sprung I fear." Although he has not yet been forewarned, he is evidently capable of weighing the possibility of its evil origin. Immediately, however, our hopes fall, as in a tragedy, when he adds:

Yet evil whence? in thee can harbour none,
Created pure.⁴⁵

This implies a logical dilemma: the evil, if it exists, must reside either in her mind or outside of it. He dismisses the first possibility, and, in lieu of pursuing the alternative involved, he turns to an account of dreams which evades the issue and serves only to allay their fears at the very moment when they should have been on their guard:

⁴² Cf. Amyraut, *op. cit.*, p. 62: "The dreams which proceed from natural causes are obscure and always presented to our minds with a great deal of confusion, so that we observe nothing distinct in them."

⁴³ *Ibid.*, p. 64.

⁴⁴ *Ibid.*, p. 73.

⁴⁵ *P. L.*, V, 99-100.

But know that in the soul
Are many lesser faculties, that serve
Reason as chief. Among these Fancy next
Her office holds; of all external things,
Which the five watchful senses represent,
She forms imaginations, aery shapes,
Which Reason, joining or disjoining, frames
All what we affirm or what deny, and call
Our knowledge or opinion; then retires
Into her private cell when Nature rests.
Oft, in her absence, mimic Fancy wakes
To imitate her; but, misjoining shapes,
Wild work produces oft, and most in dreams,
Ill matching words and deeds long past or late.⁴⁶

In normal waking experience, Adam learnedly explains, Reason holds the inferior faculties in proper subjection. Next to her—i.e., in the foremost of the three cells or ventricles of the brain—Fancy receives impressions derived from the five senses and shapes them as the materials from which Reason may arrive at propositions to be accepted or rejected.⁴⁷ In sleep, when the control of Reason has been temporarily removed, Fancy, usurping the function of Reason, “misjoins shapes”—i.e., freely recombines sensations into new compositions for the time being regarded as real.

One can hardly ask for a better summary of the seventeenth century description of natural dreams.⁴⁸ It is not, however, an explanation of Eve's experience: Adam gave the wrong answer at the moment when the right answer would have furnished the cue to the solution of the main issue, “But evil whence?”

Although he possessed no knowledge of dreams induced by evil angels, he can properly be blamed for his wrong interpretation. He had al-

⁴⁶ P. L., V, 100-114.

⁴⁷ Grant McColley, *Paradise Lost* (Chicago, 1940), pp. 166 ff., suggests that Fletcher's *Purple Island* constitutes a possible source or that the two accounts have a common source. The second explanation is correct. Milton and Fletcher made use of a persistent tradition of faculty psychology derived from the Middle Ages, universal in the Renaissance, and carried over into the Seventeenth Century with only minor changes, including less frequent allusion to the tri-partite division of the brain. See, among others, my *Theories of Imagination in Classical and Mediaeval Thought*, (“Univ. of Illinois Studies in Language and Literature,” XII) (Urbana, 1927), Chapter IX; Ruth L. Anderson, *Elizabethan Psychology and Shakespeare's Plays* (Iowa City, 1927); and Hardin Craig, *The Enchanted Glass* (New York, 1936), Chapter V.

⁴⁸ For the best account in the Seventeenth Century of natural dreams, see Amyraut, *op. cit.*, Chap. I.

ready experienced a divinely inspired dream, a type of dream having much in common with the angelic dream as opposed to the natural dream. This, described in Book VIII, 287 ff., should have constituted a criterion for his appraisal of Eve's experience. In his discourse with Raphael he not only recounts this dream, antedating Eve's, but uses precise psychological terms which show that he is supposed to understand the process of the supernatural dream. Moreover, if on this very day he was able to recall that dream in such detail, then surely, when Eve told her story, certain parallels should have flashed into his memory. In the experience recounted to the angel, a dream stood at Adam's head, appealed directly to his fancy, called upon him to rise, and led him to trees "loaden with fairest fruit that hung to his eye tempting." He, too, was impelled by "sudden appetite to pluck and eat," whereupon he waked and found

Before [his] Eyes all real, as the dream
Had lively shadow'd.⁴⁹

All of this, we find, was firmly etched in Adam's memory, but it failed to enter his consciousness at the right moment. He recalled it later in the day. If he had recalled it in the morning, he would also have been reminded that, after he awoke, a true Heavenly Guide, the counterpart of Eve's false guide, had first pronounced the interdiction of the tree.

Not only did Adam forget a relevant experience which would have enabled him to evaluate Eve's dream, but, in his assumption that it was natural, having resemblances to their last evening's talk, he either overlooked or was indifferent to the transformations of the conversation which must first have taken place in the dreamer's mind. It is true that, after remarking the resemblances, he had added, "but with addition strange." But, after taking into account the addition of an angel at the tree with his impious act, his sophistical argument, and his invitation, we can hardly excuse Adam for falling back upon an explanation of "resemblances." The relation of this dream-work to the conversation of the previous evening is not the relation involved in a natural dream, the wild work of fancy, the haphazard recombination of sensory images. If Adam believed that this represented the processes of the natural dream, he should have recognized a mental state which demanded investigation—an investigation precluded by his assumption that her mind created pure could harbor no evil.

⁴⁹ *P. L.*, VIII, 310-11.

But the modern reader should have no hesitation about asking whether there were signs of evil in a mind "created pure." He may recall that, when Adam had asserted their liberty as entailing only one easy prohibition, Eve, ostensibly agreeing, had wandered off into a description of her first consciousness, her awareness of her own beauty, and their first meeting. When in turn Adam had proclaimed night as a time for sleep, Eve had answered in a tangled skein of thought, beginning with a promise to obey, proceeding to a dance of the hours, and concluding with a glorification of night as not made for rest. These were the materials upon which a natural dream must depend. In the actual dream, however, *Adam* had called her to go walking at night to appreciate nature in the shadowy light of moon and stars and in turn to be admired by them; she had gone straight to the tree which they had talked about as prohibited, and talked to a handsome angel, who had plucked and tasted, apostrophized the fruit as divine, and called upon Eve to partake and become a goddess. It is as if Milton, with a kind of prophetic irony, had attributed to his Adam a kind of Freudian theory of natural dreams, but with a complete innocence, suitable to Paradise, of the implications for the moral nature of the dreamer.

These perversions in the dream of the conversation are not to be explained as an "ill-matching" of "words and deeds long past or late." Each detail points, not to simple images persisting in the fancy, but to a strange alteration in the mind of the dreamer as a condition for the pattern forged by Satan. When we ask why Milton represents Adam as oblivious to all of this, we may find two possible explanations.

The picture of Adam, the wrong interpreter of dreams, may be of a piece with the account of Adam, the mistaken astronomer, in Book VIII.⁵⁰ There, in the colloquy with Raphael, Adam assumed that, since the other planets seemed to the eye to be ministering to the earth, a geocentric system involved a lack of economy in Nature. Like Eve's questioning of the value of starlight unobserved, it is a superficial conclusion indicating a failure to consider a more satisfactory explanation. In much the same way, Adam offers the obvious interpretation of the dream which man's inherent empiricism, his reliance upon the evidence of the senses, suggests before he learns from Raphael that knowledge is not thus simple. His recognition of "addition strange" should have

⁵⁰ *P. L.*, VIII, 15 ff. See my "Milton's View of Education in *Paradise Lost*," in *J.E.G.P.*, XXI (January, 1922), 137-38.

made him pause, but, having at hand a convenient hypothesis, and a listener attentive and not too critical, he offered a solution which seemed to meet the situation, the solacing of Eve and the allaying of their mutual fears. He knew the first chapter of a psychology of dreams by heart, and, confronted by a "case" having many superficial resemblances, he gave the simple explanation without asking whether subsequent chapters, more perfectly assimilated, might have afforded the right solution. This represents a kind of intellectual cocksureness which Milton was evidently able to reconcile with his belief in the essential goodness of Man before the fall.

Adam's comparatively obvious explanation was also immediately comforting. To an Eve with "tresses discompos'd, and glowing cheek" it was reassuring to be told that we all have dreams, the wild work of fancy, and dreams, one knows, have no significance. Then, in the light of his dismissal of the possibility of evil in Eve's mind, he proceeded to a comforting generalization which comes close to nonsense:

Evil into the mind of God or Man
May come and go, so unapprov'd, and leave
No spot or blame behind.⁵¹

Why should the mind of God be introduced? After having rejected the possibility of evil in the mind of Eve, Adam can, for her comfort, contemplate the entrance of evil into the "mind of God or Man." This is followed by the wishful thinking that her abhorrence of the dream assured her steadfastness.

Just as the first explanation, that of intellectual cocksureness, sends the reader to the discussion of celestial motions in Book VIII, so this suggestion of uxoriousness directs him to another portion of the same book. When Adam asserted:

Yet when I approach
Her loveliness, so absolute she seems
And in herself complete, so well to know
Her own, that what she wills to do or say,
Seems wisest, virtuousest, discreetest, best,⁵²

Raphael sternly rebuked him. This revealed a state of mind which, again, Milton reconciled with his belief in prelapsarian innocence. It was this uxorious Adam, too ready to associate all other virtues with loveliness, and too solicitous of a weeping wife, who took refuge in the

⁵¹ *P. L.*, V, 117-19.

⁵² *P. L.*, VIII, 546-550.

ready answer. A seventeenth century moralist, acquainted with psychology, would have sensed impending tragedy as Adam kissed away her tears.

IV

This view of the dream and Adam's wrong interpretation has an important bearing upon Milton's conception of man's innocence before the actual sin. If Eve was capable of entertaining these thoughts, and if Adam, through intellectual arrogance and uxoriousness, could offer an explanation which resulted in continued indifference to her dangerous mental state, we must conclude that Milton believed, not in complete innocence, but in potentially sinful thoughts before the consummation of the sin.

Passages in *Christian Doctrine* bear out this belief. In the chapter on the fall, Milton makes a distinction which has been generally overlooked in its bearing upon the epic:

Both kinds of sin, as well that which is common to all, as that which is personal to each individual, consist of the two following parts, whether we term them gradations, or divisions, or modes of sin, or whether we consider them in the light of cause and effect; namely, evil concupiscence, or the desire of sinning, and the act of sin itself.⁵³

"Evil concupiscence," he adds, "is that of which our original parents were first guilty, and which they transmitted to their posterity . . . in the shape of an innate propensity to sin." He finds scriptural warrant for "this general depravity of the human mind" in a succession of verses describing "the imaginations of man's heart" as "evil continually."

"The second thing in sin," he continues, "after evil concupiscence, is the crime itself, or the act of sinning, which is commonly called Actual Sin. This may be incurred, not only by actions commonly so called, but also by words and thoughts, . . ."⁵⁴ We may observe, first, that the evil concupiscence is, not a prelude, but a part of the sin in the garden, and that, in turn, it is not to be identified with the desire to sin, such as coveting another's property, as in the commandment, or looking upon a woman to lust. These, according to *Christian Doctrine*, pertain to the Actual Sin.

If we apply this distinction of concupiscence and actual sin as the two phases of the first sin to the dream, we have grounds for believing that the states of mind both in Eve and in Adam which this experience

⁵³ *C. D.*, I, xi, in ed. St. John, IV, 259.

⁵⁴ *Ibid.*, IV, 262.

illustrated constituted the first gradation, or division, or mode of the sin in the garden—evil concupiscence. The act of sin, recorded in Book IX, is the consummation, or the effect, according to his alternative, of mental states, “the imaginations of the heart” which the poet must exemplify as the action progresses.

The place of the dream in the structure of the poem now becomes apparent. It obtrudes (in the night and early morning) upon what otherwise becomes for the casual reader an idyllic picture of an innocent pair in Paradise. For the reader acquainted with the psychology of temptations and dreams, one of that “fit audience” contemplated by the poet, it immediately focuses the attention upon the possibilities of evil in Eve’s seemingly innocent prattle, in Adam’s irrelevant psychology, and in his talk with Raphael. Adam and Eve are still good; but the dream and its “interpretation” are indicative of Milton’s conviction that this is no absolute goodness. For him temptation could not be explained as an appeal wholly external, capable suddenly of subjugating minds apparently unsusceptible to seduction. The evil was potentially in psychological conditions of which Satan had angelic knowledge. When we watch him perfecting his dream-work and we understand the skeins of thought out of which he weaves his pattern, we are studying Eve’s fancy as it directs her appetite even at the moment when she seems wholly innocent. When we attempt to analyze Adam’s failure to sense this concupiscence, we become concerned with something quite different from an admirable solicitude and a profound knowledge of psychology as applicable to the dream. Thus through an epic device transformed in terms of seventeenth century psychology the poet distilled out of flowers in Paradise the poison which constituted the first mode of the Temptation.

Observe also how in the symmetry of the poem this is set over against the second Temptation, the Actual Sin. The first phase achieves a focus after a third of the poem has been completed; the fall in Book IX comes after another third has elapsed. Thus in the architecture of the poem, in which balance is one of the principal devices, the two temptations, Concupiscence and Actual Sin, find their invariably right places.

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ERRATUM

In Emmett L. Avery's "*The Country Wife* in the Eighteenth Century," page 152, line 29, read "sixty-six" for "sixty-four."

I. A. R. I. 75.

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